Bird Notes

VOL. III.

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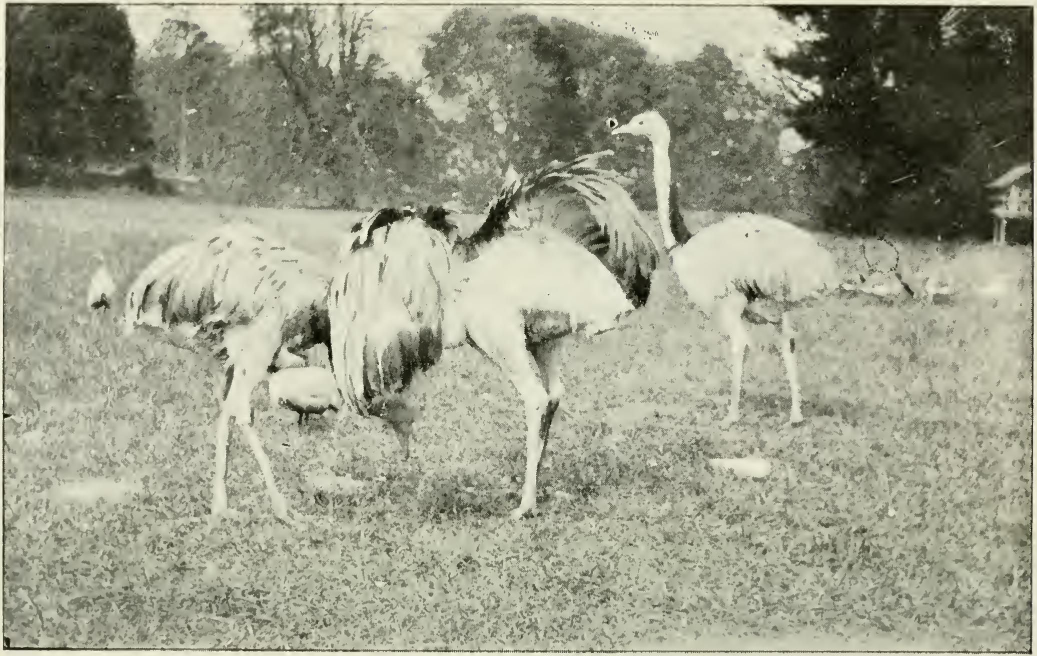

RHEAS AT BALLYWALTER PARK.

The Rheas at Ballywalter Park.

By the Lady DUNLEATH.

I HAVE been asked to write a few notes about my Rheas. I fear I have only misfortunes to record about them. My first hen died in the second year here, from rheumatism and diptheritic roup. I tried in vain for a long time to get another, but at last heard of one late in the season—unfortunately it took cold and died of bronchitis very quickly. I then got another supposed hen, but it turned out to be a cock. Last season, in consequence of these disappointments, was a failure.

In 1902 thirteen eggs were laid; but owing, I suppose, to the youth of the parents, all were clear.

I hope before the spring to be able to get a good hen. At present the cock is very well and very tame.

I also lost my cock Flamingo—he broke his leg and died from the effects. One of the Cranes died from a tumour on the brain. I have been most unlucky with my large birds, and now have only one cock Rhea, one hen Flamingo, and one cock common European Crane.

My large birds are loose in the Park all day, and at night, except in summer, are shut up in a large shed in separate compartments.

The Story of Bird-Death.

By W. Geo. Creswell, M.D. Durh., L.R.C.P., F.Z.S.

*(Continued from page 293, Vol. II.).**

On analysis we find the two or three centuries of experience of egg bearing no better fruit than the older one of twenty centuries just quoted. Although this material is held to be so conducive and indeed so necessary to the well being of our birds, its very votaries have no better adjective than "delicate" to prefix to the insectivorous section that is so universally fed on it. That is to say they are but short lived and not easily kept in health when in captivity. But why should they be so delicate, unless there is something radically wrong in the usual feeding? According to all biological laws—that is natural laws—they are much more immune than seed eaters, and should therefore much less frequently be found to die of septic trouble. They should also be longer lived than the hard bills because being much more confiding and more tolerant of captivity they do not suffer so much from nervous shock. Yet according to a correspondent of one of the weekly papers, who lately tried to deprecate any adaptation of science to aviculture, even the "best of fanciers" can only keep any of the Warbler family alive for a few weeks. A few days spent in any pathological laboratory where avine disease is being investigated would show him the reason why, and he would get a full confirmation of what after all was not a very flattering testimonial on his part to the value of his favourite food. Taking the general sense of what one reads in print and of what I find in my voluminous correspondence, it is undeniable that as a whole the soft bill section of bird life when kept on egg *is* difficult to keep in health in spite of its naturally great power of resistance. On examination, even what is intended by my opponents to be rebutting evidence only accords with this general impression. One gentleman says that many years ago his keeping of Warblers was not a success, but that when he took to egg food he did much better with them. This is without doubt quite correct : egg food plus cleanliness in the hands of a man should shew better results in the case of the *hardier survivals* than German Paste, soaked bread, and earthworms, plus more than usually septic cages administered to by a not too methodical school boy in connection with all and sundry (chiefly freshly caught) that fell into his hands. I have been through both phases myself. But this doing better is not enough. The real question is, do this gentleman's birds live anything like or approaching to their natural span of life under the influences engendered or at any rate encouraged by egg? Of course they do not.

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* Before perusing this instalment of "The Story of Bird-Death" our readers are advised to re-read the instalment which appeared last month—for the two were intended to appear together.—Ed.

Let us examine some more of this rebutting evidence. From a source where to my knowledge there has been a pretty severe and heavy death rate from septic disease among soft bills I get an argument that it cannot now be the egg, because within the last two or three months the writer has discarded it in the hope of mitigating the evil, and because he has a Swallow that for the four years of its life has been largely fed on this pabulum. This is of course an apparently incontestable argument in the eyes of those who, according to the philosopher just quoted, are given to forming opinions without thinking. But those who do think cannot feel any very overwhelming surprise at this particular Swallow's survival when they consider the nature of the food his species chiefly lives on when wild, consisting largely as it does of such flies as *Stomoxys calcitrans*, *Musca domestica*, *Sarcophaga carnaria*, and others, including along with them various members of the *Nemocera* division, all of which are at one moment on the filthiest garbage and the next in the air. I say one can hardly wonder at a picked member of the species withstanding the evil influences to which he has been exposed, and which have had the effect of rendering his owner's establishment a regular pest house to the more susceptible individuals among his birds, by reason of the uncountable millions of virulent bacteria derived from years of droppings from successive relays of egg-fed tenants.

The last and what is intended to be the most weighty instance of longevity which has been adduced with the intent of shewing the supposed value of egg food for insectivorous birds, (not to mention the avowed importance of protecting the egg - selling industry), is one of a member of the Icteridæ which for fourteen years has lived largely on egg food. When, many years ago, I was the President of one of the Midland Homing Clubs it used to be a comparatively easy matter for us to get birds home from anywhere within the borders of the United Kingdom (or even from Normandy) except from one place—London Bridge. It mattered not what birds were sent, old or young, those in training or those of proved staunchness and intelligence, the result was practically always the same. So disastrous indeed were the repeated attempts that at last it became a bye-word that one bird from the Bridge meant a hundred lost in the smoke and traps of London. How many "delicate insectivorous" birds have been lost by various owners in the process of getting this Troupial belonging to one of them to survive fourteen years of egg food —a bird too that belongs to a class which even the experienced eggists could hardly with truth call delicate? Would it be one hundred, or many hundreds? I wonder.

Longevity cannot be measured by the few isolated specimens of the more immune species that are from time to time held up as flourishing examples, the while that hundreds and thousands perish under the like conditions within a few months, or weeks, or even days of their capture. Of these multitudes no mention is made, though as we have seen, something of the truth leaks out in the use of the word "delicate."

But to recur to the definitely expressed statement that these birds cannot be kept alive in captivity without egg food :—an older experience than has fallen to any European people proves that they can. China is a country densely occupied by at least 400,000,000 (some authorities say 600,000,000) inhabitants, who are characterized according to an acute observer * by the possession of "keen critical faculties." The same writer in another of her standard works on this country states that among all classes there is shewn an extraordinary fondness for aviculture, which is described as "one of the pleasant features of the national character." Even when gentlemen take a country walk they almost invariably carry at least one bird-cage with them, to give its occupant some fresh air and the chance of any insect that may be caught. We gather from a monumental work of another well-known writer† that this country possesses records, extending back for no less than 6,000 years, which shew that even at that remote period the civilization and habits of to-day were as crystalized as they are now, and that therefore the evolution of these habits must have covered unknown centuries previously.

What do we find in this hugely populated country that apparently knows no change? Mr. F. Finn and

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* Little, *Li Hung-chang, His Life and Times*, page 5.

†Sam. Laing. *Human Origins*. 1892.

Mr. Heselton, one of whom at least has to my knowledge an intimate acquaintance with some portions of it, both tell me in identically the same terms that what the natives do not know about bird-keeping is not worth knowing. From various sources I gather that insectivorous birds are the great favourites among them, and from the two travellers just mentioned I have it in specific terms that *egg is never given in any shape to any bird whatever, either hard or soft bill.* Mr. Finn says that all the latter have to eat consists of dried flies and husked millet given *in the dry state.* Mr. Heselton differs a little from this and says that he has never seen a dried fly in China, but that he always found the insectivorous birds to be fed on dry husked millet and ordinary gentles, (and the seed-eaters on paddy rice and white millet.)

As to the results of this plain diet, the combined dictum of the two gentlemen to the effect that what the Chinese do not know is not worth knowing, points very decidedly in one direction. That this direction makes for success is also very certain from the fact that the keeping of insectivorous birds amongst the millions of those who make aviculture a national hobby, is as common in China where no egg is used as it is inversely uncommon among our corresponding thousands, who hold the "opinion" that egg is necessary, and who by dint of sheer habit and insular conceit have now elevated that opinion to the dignity of a presumed fact. In China the keeping of these birds is commonplace; here they are regarded as "delicate" and difficult to keep.

The quoting of concrete instances of success occurring in a country so far off is obviously a matter of difficulty to one situated as I am, with no Chinese acquaintance and but little access to literature on the subject. But we may refer to a paper by Mr. Swan in Vol. I. of *Bird Notes*, where he speaks of an Emerald Paradisea being kept in China "for over nine years among a magnificent collection of the rarest foreign birds obtainable." Mrs. Little also tells us of a gentleman of Macao who when he died had been the possessor for eighteen years of a Bird of Paradise, which even then was in good health and plumage.

To come nearer home: in Italy the only food given to Nightingales and other "delicate" insectivorous birds is the dried pupa of the Silkworm Moth: according to the Rev. H. D. Astley in Vol. I. (new series), of the *Avicultural Magazine*, Herr Kullman, of Frankfort, exclusively keeps Nightingales and other Warblers on a food he calls "Lucullus," and has had a Bluethroat for eight years and a Nightingale for sixteen; as I write these lines I have before me not only a sample of this food but also a letter from Herr Kullman, in which he tells me he never uses egg. Herr Fries of Bad-Homburg also keeps his Blackcaps, Nightingales, Blue-throats etc. on nothing else but this egg-free food, and at the Zoological Gardens at Frankfort all the insectivorous birds are fed on the same. Amongst these Mr. Astley noticed "Long-tailed Titmice, Golden-crested Wrens, Black Redstarts, Great Reed Warblers, Alpine Accentors, Golden Orioles and many others." Here in England Mr. Heselton uses nothing but an insect food of his own preparation, which I have examined microscopically and found to contain no egg, and to be in every respect exactly what it claims to be. One of his customers has kept two Goldcrests on this alone for four years—and these are birds, be it borne in mind, which Mr. Seth-Smith tells us (in Vol. VIII. of the *Avicultural Magazine*) are difficult to keep successfully. Naturally they would be difficult to keep—on egg. But anyhow, we see that all those "delicate" birds (which after all are only rendered "delicate" by a faulty environment), *can* be kept quite easily without egg food.

(To be continued).

The White-Capped Tanager.

By J. A. Swan.

(*Continued from Vol. II., page* 256).

ANOTHER little weakness I used to sometimes take advantage of was shown in the bird's evident reluctance to begin breakfast with the insectivorous food. I would place this in the cage first and withhold the fruit, and it was quite amusing to watch the struggle between his strong desire to commence eating, and his equally strong antipathy to begin with the diet provided. Backwards and forwards he would fly, and sometimes nearly overbalance himself in a sudden resolve to jump down to the food, and as suddenly abandon the idea with every appearance of repugnance. The second resolution generally caught him at a downward angle of about 45° from his perch, and much chattering and flapping of wings would ensue before he regained his equilibrium. It was all very funny *I* thought, though the bird seemed to miss the humorous side of the affair altogether,and regarded the whole business with great concern. I must give myself credit for generally feeling rather mean while the performance lasted, and the delighted "quock" which greeted the appearance of the fruit, and the avidity with which it was attacked, left no doubt as to the state of the bird's feelings.

When *S. leucocephalus* first came into my possession, he had a whole banana each day, and would not touch the other food while any of this remained. After a time, however, I gradually reduced this rather too generous diet, and he perforce had to choose between the lesser of the two remaining evils. He is very fond of all fruit, and in the summer I give him strawberries, raspberries, plums, greengages, and in fact anything that is ripe. He also has apples, pears, and oranges in their seasons. Mealworms he is always ready for, and would probably eat most of the other smooth insects we give our birds. It will thus be seen that the bird is very easily provided for, and when I say, in addition, that it is very hardy —the hardiness of the White-capped Tanager has almost passed into a proverb since one lived at the Zoo for nearly twenty years—it will at once be apparent to our Members that here at last is a species which combines rarity, beauty and longevity in a very marked degree: and that, provided the bird is healthy at the time of purchase, there is small probability of the owner having to regret the irritating early loss which is generally the lot of those who cannot resist the temptation to buy an uncommon species.

Like most brilliantly-plumaged birds, the White-capped Tanager has very little song. He, however, has some very pretty notes, though these are but few, and even then they are heard very, very rarely. I can only remember hearing them two or three times. The usual vocal effort consists of a peculiar chatter, uttered in such a manner as to make one believe that the bird is talking to itself, especially as it is principally heard when the bird is resting. When it is alarmed or disturbed the effort is rather harsh, but does not continue long enough to become unpleasant.

As the Catalogue of Birds has not recorded the colour of the eyes, I may here state that when held in a bright light they are deep red, but on a cursory examination they appear brownish black.

Gentleness, grace, and dignity, are attributes the

White-capped Tanager possesses in a far greater degree than any other bird I have kept. He appears to realise that for him to attack, or retaliate on, a smaller companion would be an act unworthy of his race, and the half-amused, half-dignified manner with which he meets unwarranted familiarities always commands my admiration and respect. Quite a strong attachment has grown up between a tiny Sugar Bird and himself, and the pranks and tricks the little one plays him would long ago have ended disastrously had *S. leucocephalus* been less nobly moulded. "Royal" has he been named, and Royal indeed is his nature.

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Our Exhibiting Members may be interested to learn that although the bird has only been exhibited at the great London Shows he has never once failed to secure a prize, though he has not always been able to do himself justice. On one occasion he was awarded the Club's Silver Medal for the best foreign bird in the Show.

An Aviary in Madeira.

By E. Hopkinson, M.B., D.S.O.

On my way out from England* I spent a few hours at Madeira, when I had the pleasure of visiting Mrs. Reid's beautiful "Quinta," a country-house above Funchal, and seeing the wonderful collection of birds she has there.

I hope one day Mrs. Reid will find time to tell us herself more about her aviaries and their inhabitants, but in the meantime I offer here a few rough notes, which I hope will interest our readers: who, I expect, will share with me some regret that we cannot all keep our birds under such favourable conditions, in a country which is not only sunny and free from frost, but which, from a bird-fancier's point of view, is almost an ideal one; as its port is frequently visited by both African and South American vessels, so that birds from these countries are obtained with almost equal ease; while less commonly an Australian or New Zealand boat comes in which also, no doubt, often leaves some of its feathered passengers here, to find a happy home with Mrs Reid.

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* This article was written in Gambia.—Ed.

It is no easy matter to describe the different aviaries, and perhaps the best way will be for me to try and call to mind as many of the more striking of the inmates of the many aviaries: how many I cannot remember, but there are some ten or twelve of varying sizes from about 16 feet long to smaller ones some 5 feet square, all grouped under the shade of handsome trees in one of the most beautiful gardens I have ever seen, full of flowers and foliage as green and bright as if it had been Spring, instead of Christmas, when I had the pleasure of visiting them.

So now for the birds: I will begin with the half dozen Parrots in, or rather outside, their cages, to which we were first introduced. Two Greys and two Amazons, tame and talking, and with them a great rarity, a hen Hawk-headed Parrot, which had only recently arrived and so was somewhat rough in feather.

Next came an aviary containing a lovely Pileated Jay and a hen Green Touraco from Benguela, a very rare bird in captivity, though I remember that there was a specimen of one of the species at the December Crystal Palace Show. Mrs. Reid's bird was seedy and puffy on the day of my visit, and refused to show herself, and her owner felt sure she was about to lay an egg, as on previous occasions such a temporary indisposition has been followed and relieved by the arrival of an egg. Having such a bird so ready for mating, Mrs. Reid is naturally very hopeful of breeding from her, if she can only obtain a male, and her hopes, I trust, will be fulfilled, as certainly a new-laid Touraco egg should have a nobler destiny than to provide a titbit for a Jay, even though a Pileated one.

Next we come to a pair of rare Parrots, the Black-headed Caiques, which have an aviary to themselves, and will probably soon add more lustre to the already long list of rare birds bred at the Quinta.

After an aviary of Weavers, and another for Cardinals and other birds of similar size, we come to a third, full of Peach-faced Lovebirds, which breed as freely here as Budgerigars do at home, though it is quite the opposite with the Red-faced, none of which have ever bred even here.

We then enter the largest of the enclosures, which is divided into several portions and furnished with green branches and growing plants which are renewed when necessary, and among which the birds show to the best advantage. Here are located the small foreign seedeaters, to me the most interesting part of the collection, and among them were some rarities indeed! First, the orange and black Hooded Siskin of South America, a lovely bird, of which a rough idea may be formed by imagining a common Siskin, in which all the green is replaced by brilliant red or orange. With him were some lovely mules bred between him and a hen common Canary, whose plumage distinctly followed the father, the red predominating, while the black was represented by greyish tinged with green. More interesting still was a hybrid of the second generation, that is a cross between one of these Hooded Siskin - Canary mules and a hen Canary, a grey-brown bird with only a pale tawny orange patch on its breast. Other uncommon birds were a pair of Yellow-rumped Singing Finches (nesting), and another pair of some species of Serin new to me, like a dull-coloured Green Singing Finch, but more stoutly built and as large as a Cape Canary, and which I am almost sure were neither Sulphur nor St. Helena Seedeaters. Nearly every species of small African seedeater was represented except the Crimson-eared Waxbill. These at different times Mrs. Reid has kept and found them more delicate and less long-lived than most of their allies, though even so they are among those which she has successfully bred.

In the breeding line Mrs. Reid's success has been indeed marked, nearly every kind of Waxbill and small foreign finch of which she has possessed a pair (and this last must include nearly every species possible as a cage-bird), having nested and reared young in her aviaries. Even at the time of my visit (midwinter) I remember that I saw Bronze Mannikins, Green Singing Finches, Bengalese, Wild Canaries, and Yellow-rumped Seedeaters on their nests, and I know that there were others which I have forgotten, while of the Parrot family, beside the Peach-faced Lovebirds already mentioned, I was shown some young Quaker Parrakeets and at least one young Blue Mountain Lory, which was hatched a few months previously. In the same aviary as the Blue Mountains was another very striking Parrakeet, a Jendaya, a bird I thought I knew, but after seeing this marvellously handsome bird with a golden crown and deep salmon-coloured breast, I feel sure that I must have been mistaken, or at least that I have never seen one in anything like condition.

Although I have by no means exhausted the list of birds these splendid aviaries contain, I am afraid that I have reached the limit of my memory, so will close with an expression of my thanks to Mrs. Reid for giving me the opportunity of seeing her birds, and with the hope that one day I may be able to enjoy another visit to her Avicultural Paradise.

An Unique Cage.

By J. A. Swan.

As I had many opportunities of examining the unique cage which won the Silver Medal at our recent Show, I have been asked to write a short account of it, in the hope that it will interest our members.

Imagine a roughly made margarine box (with the name boldly displayed!) about twelve inches square. Within, two perches fastened to the back. In front a properly made loose front, fixed to the cage by sliding fasteners, to allow of its being drawn up. At the back, at the bottom of the box, a long piece of wood had been cut away, apparently, one might think, with the object of making a drawer, but it was not so, for outside at the back, and covering the opening, had been affixed a roller, set in ordinary holders, around which was wound ordinary newspaper, cut to the size required for the width, and the end of the paper brought through the cage and allowed to protrude two or three inches under and beyond the loose front, thus forming a paper drawer.

The title given the cage by its owner explains its object, viz., a Quarantine or Occasional Cage. A new bird or one suffering from illness is placed therein. The front is raised daily enough to allow the paper which has been soiled to be drawn forward, torn off, and destroyed: and if enough has been wrapped round the roller at first, there will be sufficient to last a month. By that time the bird has either been found healthy, or recovered from its illness, as the case may be, and transferred to a larger cage or aviary, in which case, after a slight scraping of the perches, the cage is ready for another occupant. Or should the bird have died, possibly from some contagious disease, the front can be lifted off and thoroughly cleansed, and a new box obtained without any loss to the owner.

The size is, of course, capable of extension *ad infinitum*, but the *idea* is splendid, and Mr. Acutt has rendered a great service to aviculturists generally, by placing his simple, ingenious and inexpensive discovery at their disposal.

The Food of Birds in Captivity.

By H. R. Fillmer.

In January 1900 there appeared an article from my pen under the above heading. In the introduction to that article I expressed myself as follows :—

> "If I herein set down anything which is, or appears "to be, contradictory of what I may have said before, I shall not "try to explain (or explain away) the inconsistency. . . . . "I try to live and learn, and I find that I often have to acknowledge myself to have been wrong in the past. Aviculture is "yet in its infancy, and I believe that we shall very likely "soon stumble upon some great discoveries, which will "revolutionize all our ideas about bird food. The food which "I here recommend is, therefore simply what I, in this year "1900, have found and believe to be the most suitable—it "may not be quite the same as what I should have advised a "few years ago, and perhaps next year I shall advocate some- "different."

I am still of the same opinion, and what I wrote in 1900 applies with equal force to the present article. Indeed, I am more than ever impressed with the transient nature of much of our current avicultural teaching.

What follows is based upon the article of four years ago, but the whole has been entirely re-written, and it will be found that the advice given differs considerably from that in the original paper.

I. SMALL SEED-EATING BIRDS.

This group comprises grosbeaks, true finches, buntings, waxbills, grassfinches, mannikins, whydahs, and weavers—in fact, all the "finches" in the widest sense of the term. Also some South American forms classed by some ornithologists (probably wrongly) with the Tanagers. The Orange-billed Tanagers (*Saltator aurantiirostris*) exhibited at the Crystal Palace in October 1903, are examples of these seed-eating Tanagers.

Canary seed is the most generally useful of all seeds, and all seed-eating birds may be supplied with it *ad lib.* It is, unfortunately, often of inferior quality. The grain should be full and bright, free from shucked seeds, dust, and the *excreta* of mice. When the hand is plunged into a quantity of it, the seed should feel soft and very slippery, not harsh and rough. The beginner would usually do well to buy from a respectable bird dealer, rather than from a corn merchant—for the dealer knows good seed when he sees it, and will, for the sake of his own stock, have no other. On the other hand, highly respectable corn merchants will sometimes supply inferior bird-seed, because the sale of such seed forms only a small and unimportant branch of their business, which it is not worth their while to trouble about.

Indian millet I consider to be next in value to canary seed. It is similar to, but not quite identical with, spray millet. In food value I believe Indian millet and "spray" to be equal, but I always use the Indian as the spray form is so much more troublesome. Why it is called "Indian" I do not know—I understand that the correct term is "French millet," and that in France Canaries are, or were some years ago, mainly fed on this seed. Unfortunately Indian millet is often difficult to obtain, as few corn merchants know what it is, and even at bird-shops it is only stocked when they deal largely in foreign birds. It is obtainable at about the price of the best canary-seed, but dealers often avail themselves of their local monopoly and charge fancy prices (such as 1/- per quart) for it. It may be given freely to all birds, and for many foreign species when first imported it is all but essential. Waxbills will live largely upon it, and often do best on this and and canary seed alone *without* the addition of white millet. The seed being small, soft, and easily shelled, is specially suitable for young birds, both when fed by the parents and after they begin to feed themselves.

White millet is eaten very readily by all species—but I grow more and more doubtful about the advisability of its habitual use. It was formerly considered the proper food for "foreign birds," though seldom used for Canaries or Britishers; but my experience, which is confirmed by that of Dr. Hopkinson, tends to show that most birds do better without it, when supplied with plenty of canary seed and Indian millet. I do not feel in a position to speak positively about it, but it appears to me to be more laxative and less nourishing than canary seed and Indian millet. It certainly produces diarrhœa in some individuals. If Indian millet cannot be obtained, it is almost necessary to use white millet, as most Waxbills eat canary seed with reluctance. There is no advantage in giving it to the Australian Grassfinches, which do well on canary seed alone, and I feel convinced that it is better to withhold it from all British birds, and from Alario Finches—indeed from all the *Fringillidæ*. As a rule, there is no difficulty in buying good white millet, but it differs considerably in the degree of whiteness. The whiter it is, the fonder the birds are of it—but why this is the case I do not know.

Brown millet I have always considered to be absolutely useless, for I never knew any bird that would eat it. But Dr. Creswell tells me that birds can be accustomed to it, and will then eat it readily enough.

The above seeds are all of a dry, floury nature, and free from oil.

(*To be continued*).

Post Mortem Reports.

(*Vide Rules*).

WRYNECK, hen. (Mr. Nicholson). For five or six weeks before death this bird was noticed to cough and now and then to shake its head, and was treated with various cough medicines etc. On post mortem examination I found the air passages and lungs to be perfectly healthy. But the gizzard was packed by a large tightly matted ball of what looked like hairs from human whiskers, but which under the microscope were seen to be cocoa-nut fibres. These varied from ½in. to 2in. in length. On my acquainting the owner with this, he at once accounted for it by saying that he had been in the habit of using this material for the cage bottoms, as being "the best thing he could use."

This forms a good instance of how what is called experience is gained. Had the bird not been sent to me its death would never have been associated with what was the real cause, but would naturally have been put down to bronchitis, seeing that cough was the prominent symptom. As a matter of fact we see that this cough was due to mechanical irritation of the upper surface of the larynx by partially swallowed long fibres; but not knowing this the owner would have felt himself justified in recommending this material to others on the ground that he "had never had a bird die from its ill effects," and that it was clean, and that the birds seemed to like it etc.

WAXWING. (Mr. C. R. Lloyd). This bird was fat and well nourished, and died of the same form of septic pneumonia as characterises "grouse disease."

CARDINAL. (Mr. Fillmer). Enteritis of the hæmorrhagic form (brain extravasation) was the cause of death.

WYANDOTTE CHICKEN. (Dr. W. T. Greene). This bird had a diffuse hæmorrhage extending subcutaneously and through the loose cellular tissues in the region of the upper part of the neck and face. The larynx and trachea were normal, but the upper part of the gullet shewed numerous minute dotted ecchymoses and was very dark in colour. The duodenum was rather redder than usual but otherwise the organs appeared healthy. There were no animal parasites present anywhere, and in the absence of bacteriological examination, which unfortunately was not possible while the body remained fresh enough, we must put down the cause of death as lying between septicæmia and some accidental injury.

GOLD-BREASTED WAXBILL. (Mr. Fillmer). Pneumonia of the right lung caused death.

W. GEO. CRESWELL.

Short Notes, and Letters to the Editor.

A RARE BOBOLINK.

SIR,—With reference to the bird I exhibited at the Crystal Palace Show, in December, under the name of Bobolink Hangnest *(Dolichonyx oryzivorus)* and which in the Review ot the Show your Reporter states to be the species described in Dr. Butler's book "Foreign Bird Keeping," I should like to say that I have since found that it is not an example of *D. oryzivorus*, but of some rare species which appear not to have been previously described. Dr. Butler, who has compared my bird with a skin in his possession, agrees with me that it is a larger bird than the common Bobolink, and that its beak is different. An examination of the specimens at the Natural History Museum confirms this—for I took my bird there, and Mr. Pycraft and other gentlemen took a great deal of trouble over it and pronounced it to be probably a new species.

I obtained this bird, and another of the same species, from some natives in the Argentine Republic, when they were in their nesting plumage, a kind of pale dirty buff-colour. I got them both safely down to Buenos Ayres, and from there to La Plata, in company with some hundred other birds—but unfortunately found one of them dead when I unpacked them on board ship on my voyage home to England. This was one of the three Argentine or Brazilian birds which I lost on the voyage, out of 150 specimens.

I should be pleased to show my bird to any member who cares to call, (he should drop me a line first, to be sure of finding me at home). It was to be seen at the Crystal Palace Show of February, where I again exhibited it, this time under the name of the Argentine Bobolink.

REGINALD D. STEWARD.

6, Stanger Road, South Norwood.

SOAKED BREAD FOR PARRAKEETS WHEN REARING YOUNG.

SIR,—Dr. Creswell seems to be under the impression that a number of my young Parrakeets died, but that of course I, not being a pathologist, could not possibly know what killed them.

Let me state, once and for all, that since I commenced to give my breeding Parrakeets soaked stale bread, as an addition to their ordinary diet of seed and green food, a dead young bird has been practically an unknown quantity, and my brother, who during the last two or three years has reared Budgerigars literally in hundreds, has had a like experience. Of course a youngster will occasionally fall out of the nest or be killed by an adult; but apart from these occasional accidents I can state from experience that if Parrakeets (I am writing of the commonly kept species such as Budgerigars, Cockatiels, Redrumps, or Rosellas) are kept in outdoor aviaries,* and fed as I have recommended, dead young birds will be almost unknown. I am perfectly well aware that it is possible to rear Budgerigars on dry seed and green food alone, but I say emphatically that some addition in the form of soft food is very *desirable*, and, so far as I know, ordinary soaked bread (which must have all the superfluous water squeezed out by hand) is about the best thing that can be given. Dry seed and green food alone are *not* natural, for in a wild state the seed is generally eaten in a more or less unripe state, and innumerable delicacies such as berries, buds, tender shoots, and very possibly insects, which we cannot provide in captivity, are added to the *menu*.

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* I cannot say what might not happen in a badly ventilated birdroom.
—D. S.-S.

As to Dr. Creswell's statement that it is "the Parrot in a cage" that is addicted to dropping its food into water before eating it, and that it will as readily drop in a cotton-reel or a coin, I may say that my birds are not kept in cages, and I have repeatedly seen both bread and dry biscuit dragged to the water and soaked before being eaten, and my experience of dry bread is that if not soaked by the birds it is ignored entirely. I have a female *Brotogerys tuipara* at the present time that invariably carries her biscuit (which I often give as a treat) to the water, though this may be at the other end of the aviary, and soaks it thoroughly before eating it. She would hardly do this with a reel or a coin!

D. Seth-Smith.

Sir,—In my original paper I pointed out that those species of the Parrot tribe, which we are in the habit of breeding, have made a well-marked beginning towards the attainment of a racial immunity (*i.e.* as domesticated birds) against the septic diseases which are so fatal to captive birds in general. I went on to say that the reason their death rate is not more than is fortunately experienced is in great measure due to its not being thought necessary to give them egg, but that a good deal of the mortality which does exist among breeding birds and their young is due to giving them soaked bread.

Now, Sir, you may rest assured that the statement thus made is not merely a rash opinion, such as we too often see advanced, but that it is the result of observations made in connection with several establishments of aviaries—all of them out of doors and all administered *secundum artem*. Over and over again I have examined the bodies of feeding parents, nestlings in all stages, and adolescents, (sent to me from different quarters, not all of them connected with the Foreign Bird Club), whose deaths I have been able to connect with the use of soaked bread on grounds which to expect you, Sir, to be acquainted with would be idle and presumptuous on my part, but which are both patent and potent in the eyes of those who study the ways of bacteria.

It is of course open to one and all to disbelieve general truths on the score of their not applying to particular cases, for instance such as your correspondent's, but neither the disbelief on the one hand, nor the individual exemptions on the other, can affect the validity of these general truths.

As an instance:—some years ago a hard-working clergyman argued with me that consumption was not catching on the ground that both he and myself had in the course of our lives spent innumerable hours in the stuffy rooms of consumptive patients and yet had not contracted the disease. In this case, as in many more, my friend's inductive method of reasoning was wrong, as we all know now, although I believe he still sticks to his own opinion in much the same way as Lady Blount still holds that the earth is flat.

W. GEO. CRESWELL.

P.S.—At the proper time I hope to explain more fully the bearings of this food question.

SIR,—May I be allowed to say that I am one of those who have never given bread, either wet or dry, to Budgerigars, and that I rarely, if ever, lose a young bird. I feed them on canary, millet, and oats, with a piece of apple at this time of the year, and any fresh greenmeat I can get in warmer weather.

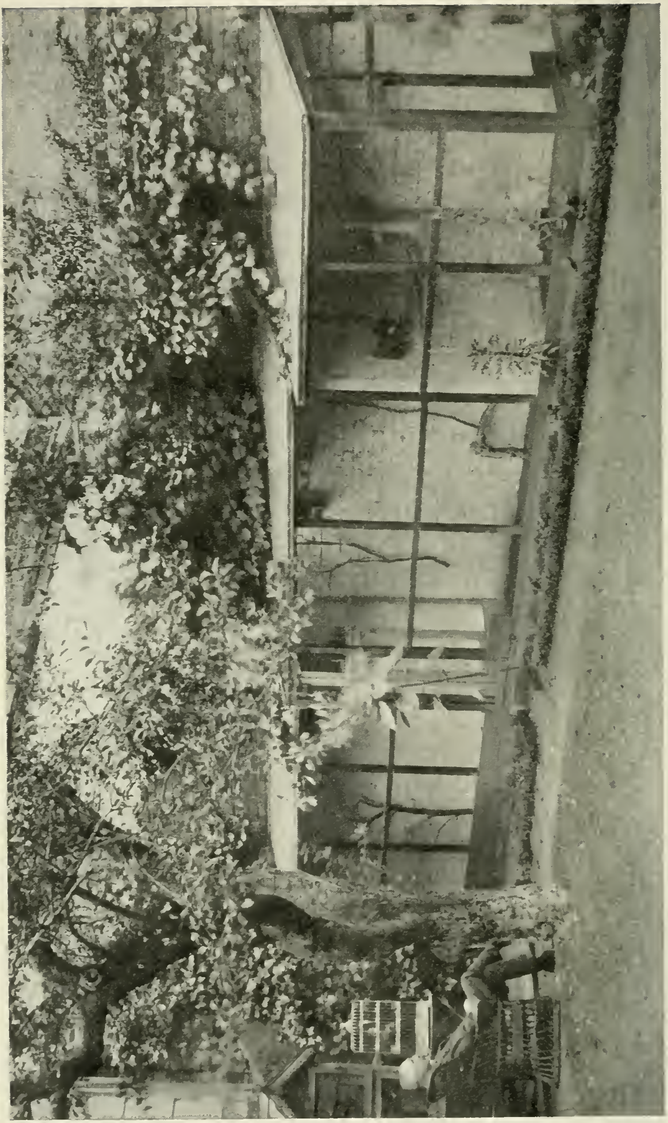
At the present time, in an outdoor aviary, I have young ones flying about, and in perfect health, fed upon the seeds I mention.

I think that if we will only be content to wait patiently, and carefully read "The Story of Bird-Death" as it continues to appear, we shall very likely hear of a few more "stupid fads" which we shall thank Dr. Creswell for telling us of.

I notice that Mr. Seth-Smith's letter was crowded out of the January number. Don't you think, Mr. Editor, that too much valuable space in our journal was taken up with the Crystal Palace Show? HENRY DART.

"The Country-Side."

Our readers have already received, or will shortly receive, from Mr. E. Kay Robinson, a prospectus of the new penny weekly to be published under the above title. So far as it is possible to judge from the information laid before us, there seems every prospect that this new paper will prove of special interest to bird-lovers. A weekly journal which shall incorporate some of the best features of the "fancy" papers, while free from the inanities which seem inseparable from that class of publication, is one of the wants of the day. We hope that *The Country-Side* may to some extent supply this want. At any rate, the venture deserves our sympathy and encouragement.



A CORNER AT EDEN LODGE, KINGSTON-ON-THAMES.

Notes on Housing and Hygiene.*

By W. Geo. Creswell, M.D. Durh., L.R.C.P., F.Z.S.

When I first began to breed Canaries I was disagreeably impressed by their general want of stamina and especially by their susceptibility to bronchial catarrh. Nearly every bird I bought, from whatever source it came, seemed to be everlastingly catching cold, although as befitted a medical man I was fully alive to the advantages of freedom from draughts and of equability of temperature of a moderate degree. In addition to this tendency to disease I was greatly troubled with hens that were altogether barren ; hens which laid only a couple of eggs during the season ; and those which, after laying their full complement all right, either did not sit at all, or else, having properly incubated the eggs to the point of hatching the young, did not trouble about the rearing of them. At that time I was the possessor of a solitary garden aviary of a very open and exposed character, which I had put up for a few British birds ; so having satisfied myself that my misfortunes had not been caused by any insect pest, in sheer disgust I turned out all the unsatisfactory hens into this aviary at the end of the breeding season to take their luck. The photographs from which these pages are illustrated plainly shew how little protection from the weather either this aviary or any of those more recently built afford the inmates, each compartment consisting as it does of only a covered or partially covered shed open for at least the whole extent of the front. All my bird-keeping friends were loud in their condemnation of my conduct. "You will not have a bird alive by Christmas, &c., &c." From time to time one friend, an eminent publisher, who had been specially condemnatory and who with middling luck kept his own birds in a small glass house, called to see how I was getting on. As may be imagined his surprise was great to find that the coughers and wheezers managed to survive all the bad weather and more than that actually to lose their bronchial troubles. My own surprise came later on: while the young hens that I had carefully cherished in the house all the winter and had treated absolutely *secundum artem* consistently followed during the ensuing season the example set by their mothers and aunts the preceding summer, these barren hens, having then been joined by some males, were building, laying, hatching, and successfully rearing during the bitter weather which we had in that particular March and April, after going through their moult in the open and spending the winter exposed to the fogs and frosts of the Thames Valley. I need not say that since that fertile experience, so accidently gained, none of my hens have ever wintered in the house, or ever will again. If for any reason I want to breed from any particular females in separate cages, I catch them up in the early spring and then bring them indoors. I generally keep during the winter from twenty to thirty hens in an aviary about 10 feet by 4 in size, which has the front and one end composed of half inch wire netting. These are principally the birds intended for hybridizing purposes, and therefore I have running with them, in order that they may get used to each other, about a dozen males of other species. These latter include specimens of the Goldfinch, Linnet, Twite, Redpoll, Serin Finch, Siskin, and Greenfinch. In addition there are generally a couple or so of Greenfinch and Bullfinch hens, which are kept on the off-chance of their turning out to be breeders. So far I am bound to say that I have had no results from these native ladies, the nearest approach to success having been reached by a Greenfinch paired to a Goldfinch cock. She laid three clutches of eggs in one season which all proved to be infertile, though she herself was a particularly close sitter. Perhaps I am wrong in so doing, but I always liberate those that do nothing and start again the next spring with fresh ones.

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* Some portion of this paper has previously appeared in *The Feathered World.*

I find that it is quite safe to put fresh caught native and newly imported Russian birds into the aviary in the autumn, and once I turned out a caged British Goldfinch just after he had finished his second house-moult. He lived and flourished like the rest of the birds. This was perhaps a somewhat rash experiment, and I should not like to take the responsibility of advising my readers to copy my example, though it is quite possible that in the majority of instances no harm would accrue. I have on several occasions bought a white-legged Goldfinch in the summer and turned it out there and then amongst the others, but that is quite another matter and is a perfectly safe proceeding. A curious thing in connection with these birds, and one which points with no uncertain finger to the different effects of different kinds of captivity, is that after they have been out of doors some time their white feet always revert to the original dark colour, and if they have moulted out pale in the blaze this gradually darkens till it finally becomes exceedingly rich and deep. Redpolls, which indoors entirely lose their colour at the first moult, if kept out of doors will moult up their red caps, and sometimes their rosy breasts will reappear, though very faintly and only for the once. Occasionally the cap will survive through a second moult under these conditions.

In the aviary which I have previously spoken of as having been the scene of the Garden Warbler's animosity towards my birds, and which consists as much of wire netting as of wood, I once kept a number of small foreigners for the space of two summers and the intervening winter. They comprised Grey and Green Singing Finches, Yellow-browed Seedeaters, Avadavats, various kinds of Waxbills (including the Goldbreasts), Combassous, Whydahs, Chestnut Finches, Zebras, Javas, a Sulphur Seedeater, and a Plumbeous Finch. Although there were plenty of cigar boxes nailed against the wall at the back, and half a dozen or so of cocoa-nut husks hanging from the roof, most of these birds persisted in roosting at all seasons of the year on the swinging perch in the open part; and despite the fact that many of them had been only a very short time before in their native climates, they seemed to be quite impervious to the effects of the frosts of England. For a considerable time during this particular winter these averaged from twelve to sixteen degrees below freezing point, and once or twice as many as twenty-two degrees of frost were registered in a night. Over and above this indifference to cold they took no harm from the storms of rain that occasionally drenched them while roosting out at night. At the end of October one of the Grey Singing Finches built a nest in a cigar box and laid three eggs, afterwards sitting the normal period throughout one of the most persistent and densest fogs that I ever remember; but the eggs—fortunately, shall I say?—were infertile. About the same time a Green Singing Finch laid her eggs in a bare box without either building or sitting. Both these hens had been imported during the preceding spring, and considering this I think that their performances, abortive though they were, will justify the conclusion not only that their respective species can claim to be hardy, but also that my opinions as to the non-necessity of coddling are correct.

(*To be continued*).

The Parrots of the Gambia.

By E. Hopkinson, M.B., D.S.O.

The three parrots of this country belong to the genera *Palæornis* and *Pœocephalus :* one to the former, two to the latter. They are (1) *Palæornis docilis*, the Ring-necked Parrakeet, called by the natives "Kelli-kelli," (2) *Pœocephalus senegalus*, the Senegal Parrot, of which the Mandingo name is "Jobo," (3) *P. robustus*, the "Bumbarra Jobo" of the Mandingoes. Nos. 1 and 2 are very common all over the Protectorate, and any number are daily to be seen either flying over, feeding in the trees, or collected on the ground round the heaps of ground-nut grass, eating the scattered nuts, of which they are inordinately fond, and with which the crop of any parrot shot at this time of the year (before the nuts have been gathered in), is sure to be found filled. In parenthesis I may remark that, besides the birds, every one, both black and white, and nearly every animal, from dogs and horses downwards, is in this country a groundnut eater on a large scale, especially when they are fresh, at which time they are really good, a very different thing from the dried up things one buys as "monkey-nuts" to feed the monkeys with at the Zoo.

Our Ringneck is merely a smaller edition of the Ringneck Parrakeet imported in such large numbers from the East, and is just as inveterate a screamer as the majority of those birds, and, in my opinion, has not a point to recommend it as a pet. Any I have had have been noisy and savage: absolutely untameable if taken when adult, while even my young birds became wild and unsatisfactory as they grew up. On the other hand, when free they are really handsome birds, which generally go about in flocks of from 20 to 30, conspicuous, when on the wing, for their rapid whizzing flight, their gleaming green plumage and outspread tail, but most difficult to see when feeding on a leafy tree, though their presence is always manifest by their constant shrill screaming.

The Senegal Parrot is my ideal pet in the parrot line, the very antithesis of the Ringneck; easily tamed, quiet and intelligent. It makes no difference whether it is taken old or young, in three or four days it is practically tame, and in a week obviously delights in being scratched and shows every sign of enjoying the attentions and presence of its owner. The one I have now, though an old bird, which fought and bit savagely when first brought to me, began to feed within twenty-four hours, and was safe to handle in three days; and every bird of this kind, which I have kept or seen, has shown just the same natural tameness and adaptability to captivity. When wild, however, they are extremely wary birds, never feeding without one of their number stationed on an elevated position to keep a sharp look-out for dangerous intruders. They usually go about in flocks of about the same size as those of the Ringnecks, but unlike them are slow (though strong) flyers, progressing by sharp short strokes, the points of the wings almost meeting beneath the body at each stroke. In the open the brilliant yellow of the breast and bright green of the upper parts are very striking; but these two colours (as is also the case in the similarly marked Green Fruit-Pigeon), harmonise so well with the dead and living leaves, that in a tree these birds are among the most difficult of all to distinguish. They breed from about May to September, laying two eggs in a hole in a tree. Their call note is much more of a chatter and less of a scream than that of the Ringneck, while when tame they are as quiet as any Parrot ever is.

The third species is a much larger bird, being about twice the size of the Senegal. Its most striking feature is its enormously strong beak, which is very noticeable even a distance, and which looks as if it could just as easily nip off a finger as crack a nut. The natives assure me that the bird requires this strength of beak, in order to open cocoa-nuts, but this story I more than suspect to be on a par with many of their animal anecdotes.

Its general colour above and below is dull green, with a grey head and a patch of reddish-orange on the shoulder, another smaller one on the finger, and a narrow ring of similarly-coloured feathers round the leg. In some individuals the rump is bright Kingfisher blue, in the others bright grass-green, the latter I believe being the cocks. This is contrary to what one would expect, but the only specimen (shot by a friend the other day), which I have been able to examine was a green-backed bird, and I am practically certain (from dissection) a cock. A similar sexual difference in plumage has also, I believe, been proved to exist in a similar bird from other parts of Africa.

This bird is a much rarer bird in the Gambia than either of the other two, and I rather think that it is confined to the North Bank of the River, as I never saw one all the time I was out here in 1902, when I was mostly on the South Bank. In the part of the country where I am now, the North Bank, one sees about two or three parties of them in a week. They usually go about in pairs (I have sometimes seen four together, never more), are much shyer and fly higher than the Senegals, and have a much more raucous note. The natives say they do not breed here, but leave for the East about March, returning again in the following

November. I am trying to get one or more of them alive, but although I have heard from different people that they are occasionally caught, I have so far had no success.

The Ringnecks and Senegals are frequently caught by the village boys, especially during the breeding season, when the young are taken from the nest and easily reared on chewed groundnuts, but the capture of a "Bumbarra Jobo" is likely to be a more difficult job, though I hope, as the natives gradually begin to realise that it pays them well to bring strange beasts and birds to me, that one day a boy will turn up to claim the dollar I am offering for a living and unhurt "Bumbarra."

The Common Firefinch.

(*Lagonosticta minima*). (*a*).

A translation from Dr. KARL RUSS'S "Die fremdländischen Stubenvögel."

BY E. HOPKINSON, M.B., D.S.O.

With notes.

OUTSIDE, the first of the autumnal storms is raging; the summer's warmth and glory will soon be things of the past, and we must resign ourselves to the loss for a period of our enjoyment of outdoor nature. But it is just at this season, September, that one of the most interesting

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(*a*) In the Catalogue of the British Museum two species of Common Firefinch are described, *L. senegala* with no side spots, and *L. minima* with spots, but it is noted that it is very likely that the unspotted individuals are adults, while the spotted ones, which are also not such a deep crimson, are younger birds. These two species, as well as the Brown-headed Firefinch, Dr. Russ describes under one heading.—E.H.

of the small foreign birds is most ready to nest, and give us a pleasing picture of happy family life; I refer to the Firefinch, so well known to all fanciers, the little red bird, whose main colour varies between blood-red and carmine, while the upper back, wing-coverts, and upper surface of his tail are dark reddish brown washed with olive-greenish. A glossy red bill with black ridge, a bright yellow eye-ring and lovely white spots on the sides of the breast are additional attractions, and altogether he is one of the most beautiful of the small Tropical birds which are brought alive to Europe; a lovely mite at all times, but more especially when his plumage is gleaming in the sun. The hen is a uniform darkish brown, lighter below, and distinguished by a red rump, upper tail-coverts, and eyebrows, and like the cock also has spots on her sides.

In size the Firefinch is about the same as the Grey Waxbill, but is rather more solidly built.

As it is such a noticeable little bird, it is one of the few small foreign birds about which plenty of information is to be found in the works of different travellers, as Hartmann, Von Heuglin, Speke, and others. Its habitat extends over all Middle Africa from the East to the West Coast, in fact, like the Grey Waxbill, it is found over the whole of the Tropical portion of the Continent (*b*).

Dr. Robert Hartmann likens it to our House-Sparrow, as it shows a distinct preference for the habitations of man, and is always to be seen in the

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(*b*). Dr. Russ gives rather an extensive range. The Common Firefinch is confined to West Africa, the allied *L. brunneiceps* replacing it in the East and South. In habits the three species are absolutely identical, and the following descriptions of their life in a state of nature, which strictly refer to *L. brunneiceps*, are equally applicable to the other species.—E. H.

villages of Southern Nubia and the Eastern Soudan, building its nest inside the houses, and resembling our Sparrow in its general habits. Apart from the breeding season these birds are found in large flocks associating with Cordon Bleus, Combassous, etc., round buildings, in gardens and fields, as well as in the open country and the bush. The above-mentioned explorer met with large flocks of these birds on the Blue Nile in May, and Von Heuglin saw enormous numbers of them in Dongola. During the breeding season they frequent villages, and are rarely met with in uninhabited districts or among the mountains, though in Abyssinia their range is said to extend to an altitude of 9,000 feet. Von Heuglin says, "the "Bloodfinches" (as he calls them) "are dear little "lively birds, which come trustingly into one's stable "or even living-room, to pick up scattered corn or "crumbs: their call-note is a quickly-repeated chirp, "and their song is simple but not without melody. "I noticed these birds but rarely in the trees or "bushes during the day, as they prefer to pick about "on the ground, in the ditches or dung-heaps, on "the walls, roofs or windows of the houses, and they "are very loth to leave any spot they have chosen as "long as men remain in the neighbourhood. They "used, however, to resort to the cool shade of the "lemon-trees every evening, and in these, at any rate "during the hottest part of the summer, they were "accustomed to pass the night, collecting about sun-"down with eager twitterings,—a noisy concert of "shrill sounds which lasted some time before quiet "was at last attained. The nest is placed on a rafter, "under the thatch, in a hole in a wall, or in a crevice "in the matting-fences (which surround the native "compounds), but its commonest site is in one of the "many abandoned and half-ruined huts; much more "rarely it is found in bushes or tufts of grass, and

" perhaps in trees, though I have never yet found a " nest in such a situation." (*c*).

Another traveller states that the nest, whether it is placed inside a hut or built in the open ground among dry herbage, consists of long straws and grass-stalks heaped up into a large irregular pile, with a smooth lining of fine grasses etc. (*d*). In the writings of other African travellers who mention these birds, no further information is given, except that Heuglin frequently refers to the untidiness of the nests of this bird, which he found, but on this point his account by no means agrees with the observations most carefully made and recorded by Viellot, who successfully bred these birds in confinement.

This distinguished French scientist thus describes

(*c*) The following recent notes on the habits of *L. brunneiceps* I take from the late Dr. Stark's Birds of South Africa, Vol. I. They confirm the accounts of the earlier observers, whom Dr. Russ quotes: "These little Waxbills are somewhat common in " the Transvaal between Potchefstroom and the Limpopo " River, in small flocks, or perhaps more often in single pairs. " They feed on the ground, almost exclusively on grass-" seed, keep close together when feeding, and are gentle and " affectionate in their manners. While hopping about on the " ground they constantly repeat a sharp twittering note, which " is changed to a sharper call when they take flight. Like " many of the South African small birds, they breed very " irregularly, in the Transvaal both summer and winter. A " nest, taken towards the beginning of June, was placed on the " ground in the centre of a tuft of grass. It was domed, with " a small side entrance, and was loosely woven from coarse " grass lined with feathers. It contained three white eggs " averaging 0.56 by 0.45."—E. H.

(*d*) In Gambia, where I have had the opportunity of seeing these birds in their own country, I cannot remember to have ever come across them away from the native villages, even in the non-breeding season, but they seem to spend the whole year about the huts, small flocks, which look like family parties, keeping to particular compounds, and getting the

his success in breeding "la petite Senegali rouge":—
"These little birds are tame, gentle and affectionate
"to each other, are very sociable and delight in
"sitting close together, more especially at night,
"though during the breeding season one pair is likely
"to fight with other pairs, and so must be kept
"separately. At this time the cock lives only for his
"mate, and with a little bit of grass in his beak
"courts her by hopping round her with little jumps
"either upward from the ground or sideways along a
"perch toward her, all the time singing his rapture
"and affection. If she receives his advances, he
"repeats his little love-song, but if on the other hand
"she is coy or shy, she will refuse all his attentions,
"and even end by getting angry and driving her
"lover mercilessly and savagely all over their abode.
"When all goes well, the nest is soon commenced,
"both birds working at it, building with straw, grass,

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greater part of their food from the places where the women throw away the husks of millet and other refuse of their very primitive kitchen arrangements. In this part of Africa the commonest site for the nest is undoubtedly the thatch of the huts, and it usually consists of an irregular heap of grass etc., filling up a hole actually in the straw of the roof, though occasionally a similar collection made into a roughly spherical mass is placed in the fork of one of the V-shaped poles which support the bamboo framework of the roof. They prefer a deserted hut, but if such a one is not available they go to nest just as readily in one which is occupied, flying in and out of the door or sitting on their eggs, quite regardless of the unfeathered owners of the hut, who, I must say, never do anything likely to disturb or drive away their little lodgers. Even when not nesting many of them roost every night in the huts, either in an old nest-hole or on one of the rafters, and appear to be wonderfully tolerant of what one would have thought was absolutely unbearable, as I have seen them roosting in the roof of a hut in the middle of which a wood fire was burning, the smoke of which filled the whole place, as it very slowly made its escape through the thick thatch.—E. H.

" and moss outside, with an inner lining of feathers
" and plant-down ; in shape it is spherical, about the
" size of an Ostrich's egg, with an entrance in the
" middle of the side.

" When these birds are breeding, as they most
" commonly do during our winter, it is necessary to
" keep the bird-room temperature at about 75° Fahr.
" By keeping the sexes apart one can postpone the
" breeding season to a more suitable time of the year,
" and this should be done when possible, and in any
" case it is as well not to let a pair have more than
" two broods."

(To be continued).

The Story of Bird-Death.

By W. Geo. Creswell. M.D. Durh., L.R.C.P., F.Z.S.

(Continued from page 8).

It is not only possible to keep the "delicate" insectivorous birds without egg food, (and indeed for much longer periods without it than with it), but for the very obvious reasons set forth in a previous chapter it is even more important to do so than in the case of our Canaries. The one is domesticated, and in consequence possesses a measure of immunity against at least one result of using this food : the other, which possesses no immunity at all in this respect, has to be captured ; and since it does not habitually breed with us, and thereby stands no chance of eventually working out its own salvation, every individual that we kill is just so much reprehensible waste. And with egg sooner or later we practically kill all. Take for instance a case which occurred in my own birdroom. Acting on my advice a patient of mine took an American tour in search of health, and before starting asked if he could bring me back some birds. To make a long story short — he procured somewhere or other a pair of Mocking-birds and took them on to Boston, where he stayed for a month or six weeks with some friends before coming home. Eventually he brought them over, keeping them while on the voyage under his own care and in his own cabin—not putting them under the ofttimes perfunctory guardianship of the ship's butcher. When they came into my possession they were sprightly, active, healthy, and most particularly tame and confiding. Along with them were presented to me two large tins, (one in use, the other unopened), of what at that time was to me a most mysterious and uncanny kind of substance, and about which my friend could give me no information beyond that when mixed with a little crushed plain biscuit it was the proper food for these and other soft-billed birds. It had a sharp, pungent, and slightly unpleasant smell, and was of a dark brown colour: on examination I found it to be composed of some dried and powdered insect, or insects of sorts. For nearly two months—as long as this food lasted—the birds remained in perfect condition, and the cock began to come into song. When it came to an end, and not knowing then how I could obtain further supplies, I adopted the use of a much recommended soft food containing the vaunted egg. The birds took to it at once and seemed to enjoy it, but, sad to say, within a fortnight first the hen and then the cock died of a violent enteritis, which to my certain knowledge was caused by none of the influences to which it is so commonly ascribed. Even at that time, in the consciousness that egg is a most unnatural food for birds, (although in their very earliest stages of development they are entirely nourished by it),* I always suspected it of being the cause of death, but so long as I had only suspicions to go on I said nothing: now that my general suspicion of egg is changed into something more definite the case is altered, and no great effort of imagination is required in this case as in many others to fix the blame where it was due.

As I shall have to treat of egg food in connection with yet another disease affecting cage-birds, and as in the next chapter we must proceed to the discussion of the actual pathological aspects of septicæmia, the above remarks must now suffice on the subject of this pernicious but widely recommended article of diet. Indeed to the thoughtful reader it is hardly necessary for me to say more; he can find much to arrest his attention in almost every article or letter dealing with the experiences of bird keepers, and by the light of what has been said in these pages can easily put his finger on the true reason of many recorded puzzles and disappointments. In particular I would direct his attention to the numerous cases where rare birds have been persuaded to breed but have only half reared the young, owing "*solely*," as the chagrined owners always think, "to the difficulty of providing sufficient live insects."

To recur to the question of comparative immunities, it will by this time have been gathered that as regards this there is not only a great difference between domesticated and wild birds, but also that amongst the latter there is in this respect a considerable divergence between the different species and genera. Just as the ordinary "seedeaters" are more susceptible than those which are arbitrarily differentiated under the title of "insectivora," so in both sections we meet with decided gradations. Take for instance the Yellow Ammer and the House Sparrow, both of them mixed feeders. Klein found in his experiments that when he inoculated the former with material derived from Grouse most of them died within a very few hours and none survived the fourth day. On the other hand no less than thirty per cent. of the Sparrows either resisted altogether or at any rate recovered.*

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* This question will be dealt with in a chapter on Digestion and Bird Foods

And so it comes about that while none are absolutely immune, some species when brought into captivity are said to be hardy or easily "acclimatized," whereas others are regarded as "delicate." We often see the expression that such and such a bird "when thoroughly acclimatized is fairly hardy." What those responsible for this opinion really mean—although they are quite innocent of intending to convey the impression—is that these particular species are so susceptible to the effects of the special environment attaching to *captivity*—not *climate*—that many or most of them die, while certain individuals, being the possessors of a special individuality, survive even under the very adverse circumstances to which they have become exposed.

To illustrate the whole position in its various bearings let us take the previously noted instances of the Swallow and the Goldcrest, both "delicate" birds as accounted in popular estimation. But in the case of the former the "delicacy," or what would be called the "difficulty of acclimatization" if it were purely a foreign bird, lies principally in the necessity which exists for persuading him to alter his ancestral manner† of feeding. A bird which for countless generations has fed only on the wing by opening a wide and gaping mouth, which more or less automatically engulfs its prey, is not to be easily taught to pick up its food from the floor. In those cases, however, where this difficulty can be overcome a certain proportion of these more ready pupils will live, and, as we have seen, one here and there will even be able to adapt itself to the most destructive and unnatural diet. On the other hand the Goldcrest, in whose case no difficulty exists as to the manner of feeding, is so "delicate" that *under the usual English method of nutrition* he scarcely lives at all, although it is true that he seems to do pretty well when fed on a more nearly natural diet.

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* Klein. *Etiology and Pathology of Grouse Disease.* 1892.

† John Hunter, F.R.S. *Essays and Observations on Natural History.* Prof. Owen's edition. 1861. Vol. II., page 280.

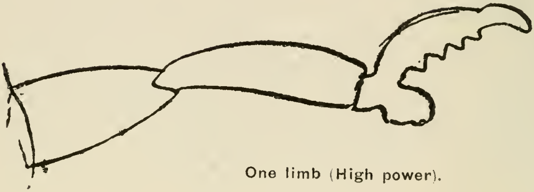
(To be continued).

One of the Uses of a Bird's Beak.

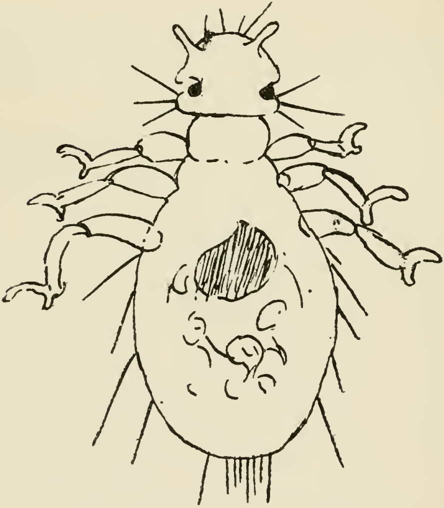
By S. H. SNELL, M.D. (London).

A HEN Hawfinch came into my possession with the tip of the upper mandible broken off. It managed, however, to break its seed fairly well, and I turned it into an outdoor aviary with some other finches. After about three months I noticed that the bird was beginning to droop. I caught and examined it, and found it to be absolutely swarming with lice, of which there must have been myriads, The lice were large, whitish and about 1-20th of an inch in length. They swarmed round the insertion of every feather, and some half-dozen had ensconced themselves in the folds of the conjunctiva between eye and lid. The whole condition was horrible in the extreme. I examined some of the lice under the microscope, and a drawing of an entire animal and one limb is here reproduced.

Obviously the bird was unable, from the condition of the beak, though otherwise healthy, to properly prune itself and keep down the insect plague. The case is interesting from this point of view as showing the importance to a bird of its "toilet."



One limb (High power).



The shaded part in the interior was bright red with blood.

S. H. Snell.

Wandsworth Common, S.W.

Post Mortem Reports.

(*Vide Rules*).

BLOSSOM-HEAD PARRAKEET. (Mr. Bramley). Acute enteritis was the cause of death.

BULLFINCH. (Miss Busteed). This bird was very fat. The liver was the seat of almost universal fibroid degeneration. Sections when microscopically examined shewed the vessels and capillaries to be choked with old blood corpuscles and crystals of the colouring matter of the blood. This condition had been brought about by a long continued course of over feeding in conjunction with limited exercise, and is not uncommon in birds of this species, as a sequel of chronic congestion of the organ.

GOLDFINCH. (Mr. Fillmer). In this case fatty degeneration of the liver was the cause of death.

RIBBON-FINCH, hen. (Mrs. Gorter). She had laid eggs but did not sit. A little before death she was very thirsty and appeared to be in pain. On examination I found the oviduct and adjacent layers of the mesentery to be acutely inflamed.

CANARY, hen. (Mrs. Mortimer). Pneumonia of the right lung was the cause of death.

CANARY, cock. (Mrs. Mortimer). This was the mate of the above hen, and died the day after she did. His crop and stomach were quite empty, although there was plenty of food within reach. The tissues were somewhat anæmic.

COCKATEEL, hen. (Mr. Harman). Egg binding was the cause of death. The bird was hatched late last year and was therefore not too well fitted to undergo the strain of early breeding in such cold weather as we have lately experienced.

ALARIO-FINCH, cock. (Mr. Fillmer). This bird died directly on arrival from Africa, whence it had been privately imported. There was an extensive pneumonia in the right lung, and a slight amount in the left. There was some congestion of intestines and liver.

W. GEO. CRESWELL.

Short Notes, and Letters to the Editor.

THE BIRD OF DEATH.

SIR,—The following paragraph was taken from a London paper a short time ago:—

"But one specimen of the venomous bird is known to the "student of ornithological oddities—the Rpir N'Doob, or Bird "of Death, a feathered paradox of New Guinea. Persons "bitten by the creature are seized with maddening pains, "which rapidly extend to every part of the body. Loss of "sight, convulsions and lockjaw are symptoms which follow "in rapid succession."

The idea of a bird's bite causing such an agonising death is weird and horrible in the extreme. It would be very instructive and interesting if any of our Ornithological Members could give us further particulars of this wonderful creature. I have been unable to identify the bird through any of my books.

J. A. SWAN.

THE EGG QUESTION.

SIR,—I read Dr. Creswell's article in last month's *Bird Notes* with much interest, and in answer to Dr. Creswell I should like to state that I do not deprecate "any adaptation of science to aviculture," but appreciate and welcome it: at the same time I believe that the truth cannot be established unless evidence from both sides is considered. To-day I was reading in a weekly avicultural paper a doctor's advice to a correspondent whose Skylark was ill through improper feeding, and the doctor said, "proper food must be given with plenty of egg and ants' eggs in it. With *egg* insectivorous birds are healthier than seedeaters." Now, how are we fanciers to act, under such diversity of opinion, from leading men of science.

For my part, I think egg cannot be dispensed with altogether, and whilst we eggists (as we are styled) can rear healthy young birds on egg food it would be foolish to discard it until there is a more unanimous opinion against its use, just because John Chinaman does not use it. What proof have we that the Chinese are such adepts in the art of keeping the delicate species of insectivorous birds alive? Does their system of feeding commend itself to a reasonable and intelligent fancier? One of Dr. Creswell's authorities on Chinese customs says they are there fed on dried flies and husked millet, and the other says he has never seen a dried fly in China. This is tantamount to saying insectivorous birds are fed on husked millet. I wonder what you, sir, would have thought of me, if I had fed the little Sedge Warbler you gave me some years ago on such food? You would certainly have thought I was a fit subject for a lunatic asylum. A Skylark might live on such food, but I doubt if any bird less hardy could.

I should like Dr. Creswell to try this diet on one or more of the eight little Warblers that migrate to this country in the summer, and then give his verdict as to whether they are delicate or hardy. Gentles they might live on for a time. As for dried flies, many soft-billed birds will not touch them. Those we get in this country have a nasty salt taste, and I believe are what are called the water bug and are caught by the natives in nets on the water at night. I hope Dr. Creswell will get us some fuller information from China as to the feeding of insectivorous birds. so that we may be able to keep the most delicate to their natural length of life when in confinement; by so doing he will greatly further the interests of aviculturists.

ARTHUR JONES.

Mr. Jones quotes the opinion of a well known writer on aviculture in support of the use of egg, and because this gentleman possesses a doctor's degree, he assumes that his opinion on a medical question is equal to that of Dr. Creswell. I have all due respect for Dr. Butler as an ornithologist, but he is not a doctor of *medicine*, nor a medical man at all, so that his opinion on a medical point is of no more scientific value than that of Mr. Jones himself. The Sedge Warbler incident, which I had quite forgotten, took place seven or eight years ago, and at that time we were all alike wedded to the egg treatment. The Sedge Warbler in question was, I think, the last survivor of some half dozen small Warblers I had purchased a few weeks before, so the egg treatment was not remarkably successful. I have abandoned the use of egg for more than six months, and my insectivorous birds are doing splendidly without it. Egg may, or may not, be a desirable addition to the dietary of insectivorous birds—I am strongly of opinion that it is not—but to say that it is in any sense a necessity is to state what is contrary to fact.

It is a pity that Mr. Jones has misrepresented Dr. Creswell's statement about the feeding of insectivorous birds in China.

H. R. FILLMER.

SOAKED BREAD FOR PARRAKEETS.

A member who bred over 500 Budgerigars last year, (and finds the hobby decidedly lucrative), informs us that he has never used soaked bread for his breeding birds.

Queries and Replies.

All queries are answered by post. A few which appear to be of general interest are published with the answers, in this Magazine.

BREEDING GOULDIAN FINCHES.

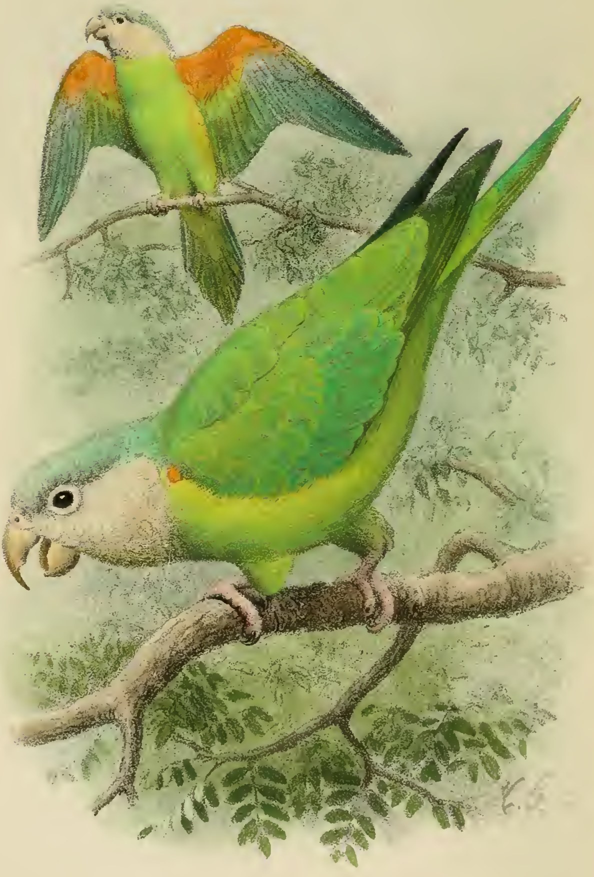
Question : Can you tell me what success I might hope for in the breeding of Gouldian Finches, either red- or black-heads ? I could put them in an outdoor aviary, with no glass in front; or in a cage in either a cold room or in hot-houses kept at various temperatures.

I noticed an article by Lady Dunleath, in which she mentions that hers bred in an outdoor aviary. Would this be likely to be an *open* aviary; that is to say with no glass ?

E. W. C.

Answer : Gouldian Finches, both Red-headed and Black-headed, have been bred fairly often in this country. Like all birds, other than domesticated races such as Canaries and Bengalese, they are much more easily bred in aviaries than in cages, and in outdoor aviaries than in indoor ones. Outdoor aviaries are better without glass—except that a glass screen may sometimes be useful as a shelter from the wind in an exposed situation. The birds intended for breeding should be put out in May, on a fine, warm day. It will be well to bring them indoors again in November. If the aviary is turfed, the Gouldian Finches will require nothing beyond their ordinary seed for rearing their young. If there is no turf, some kind of green food must be regularly supplied. A lump of rock salt, moistened daily, has been recommended for these and other birds—I cannot say that my birds have ever appreciated this delicacy.

H. R. F.



H. Goodchild, del. et lith. A.S. Huth imp.

ORANGE-FLANKED PARRAKEET

Brotogerys pyrrhopterus.

From a living bird in the possession of Mr S.M Townsend.

The Orange-flanked Parrakeet.

By S. M. Townsend.

I DARESAY some of our readers may remember a short article in Vol. I of "Bird Notes" on "Tig Timothy," who is the subject of the plate this month. Those who have read it will know that he is an eccentric character. He, like the majority of birds, knows strangers, but where he differs from others is that he nearly always shows a violent and very audible dislike to them: in fact when I am away and anyone who is strange to him is feeding him, that person has to take the seed in one hand and a stick in the other! This perhaps sounds as though the bird were hopelessly vicious, which he is not: but since he has been to one or two Shows, from the very fact of his being so tame and fearless, he has attracted a good deal of attention and has been, I am afraid, a good deal teased. These birds are always sold when they first come over as naturally tame, but I think this is a mistake. Those that I have come across are, indeed, naturally fearless, but can hardly be called tame, for without some training they are very much inclined to be spiteful. But they become very affectionate, and, to anybody who wants one bird to make a special pet of, I can recommend this species.

When Mr. Goodchild was painting his portrait Tig Timothy did not behave himself, he quite lost his temper and clambered round and round his cage, as if he wanted to get out and devour the artist, and it took a great deal of Mr. Goodchild's time and patience to get this happy result—but he is a dear little fellow all the same.

At our late Show, as Mr. Swan and I were responsible for feeding and looking after the foreign birds, we had to be at the Crystal Palace fairly early, and Tig used to see me long before I saw him, and call out, and use every means in his power to attract my attention, and show how pleased he was to see me.

He keeps in very good condition, but always has to be assisted at moulting times with the quills on his head—this is a very ticklish operation and upsets Tig's dignity for days. I take him out of the cage (with gloves on) and just rub each quill separately between the finger and thumb. When they are once broken he very soon gets into perfect condition again. Perhaps some of our members who make more of a study of Parrakeets than I do can tell me why these quills do not burst spontaneously. I feed him on canary and sunflower seeds, with a little hemp seed occasionally. He is very fond of a piece of banana, and I sometimes give him a small piece of bread or biscuit which he at once takes and dips in his water before he eats it. There is no fear of overlooking him at feeding time, for if you pass him over he does not forget to remind you.

I should think the profit made in importing birds of this species must be considerable. I am told that in their native country they are to be bought for a coin which represents 2½d., and at the time I purchased mine the market price was about 30/-. Now-a-days they are to be had for 15/- each, but as they are very hardy and travel much better than most birds, probably but few are lost on the journey. So somebody must make money out of them.

The Orange-flanked Parrakeet is a native of Peru and Ecuador. The female resembles the male, but is stated to be slightly smaller.

Bird Notes from Gambia.

By E. Hopkinson, M.A., M.B., D.S.O.

During my wanderings about this country as Protectorate Medical Officer, (or "Itinerant Doctor," a title by which I have been addressed), I have naturally been very interested in, and at different times have jotted down rough notes on, the different species of birds which I have come across. These I have in the following pages endeavoured to arrange in a systematic order, and, though they contain no new facts or anything of scientific value, I hope they will interest our readers, and give some idea of the bird-life of this tropical colony, mainly a mighty river and its banks, which has the distinction of being our most northern West African possession.

I will commence with the PLOCEIDÆ, as the family which contains the typical West African cage-birds, and which therefore is likely to be of more immediate interest to the majority of the members of the F. B. C.; but as in a previous issue I gave some account of most of the Gambian representatives of this family, I will here content myself with some more general remarks.

From the nature of their favourite haunts in a state of nature, they can be roughly divided into three groups:

(1) Birds which frequent the native towns, and everywhere seem to enjoy the society of man; namely the Common Firefinch, the Combassou, and some of the large yellow Weavers (*Hyphantornis*).

(2) Birds of the cultivated or cleared ground round the towns; Whydahs and Weavers (especially when out of colour), Bronze and Magpie Mannikins, Cordon Bleus and the other species of Waxbill.

(3) Birds of the ricefields and long grass of the swamps; Whydahs, (especially the Yellow-backed Whydah), and Weavers when nesting and in full plumage; some of the Waxbills, particularly the Orange-cheek, and in this group I think the Silverbill must also be included, but this is such an unpretentious little bird that I cannot feel sure that I have ever seen one wild, though the flocks of small brown birds, which haunt the long grass round many of the swamps, must, I think, be these birds, or else Quail Finches (*Ortygospiza*).

The breeding season of all these birds, in Gambia at any rate, seems to be during the rains, but their nests may be seen nearly all the year round, in trees, bushes or reeds, mostly woven of tough grass, and so well-made and so strongly fixed in position as to withstand the violence of the fiercest tornado.

In the winter all the Weavers I have seen are quite out of colour, but among the Whydahs some individuals, at least, appear to keep their colour all the year round, as indeed they frequently do in captivity. I have often seen both Combassous and Paradise Whydahs in full colour as late as February, though some of the latter have often lost their long tails. The Bishops, when out of colour, gather in immense flocks, which during the dry season haunt the fields to feed on the dropped millet seeds or other seeds and grasses. If disturbed the flock rises with a loud whirr of many wings, and it is then that one of the numerous Hawks, which are always in evidence here, has an opportunity of obtaining an easy meal. Down he swoops at four or five times the speed of the flying swarm, and picks out his victim from their midst, almost before they have realised the

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My classification is based on that of Capt. Shelley, the first volume of whose *Birds on Africa*, has supplied a solid foundation for my notes, and to whom I express my thanks. E. H.

presence of a far more imminent danger than the harmless man, at whose approach they rose.

THE FINCHES. The two Serins, the Green and the Grey Singing Finches, are very common, the former usually in flocks of about a dozen or more feeding in the long grass in the fields, the latter in smaller flocks preferring bushy country or small trees. The Green Singing Finch, the "Canary" of Bathurst boys, is the only bird one sees as a caged pet in this country, except for the occasional cageful of Waxbills, etc., which some more than usually enterprising individual may have collected to dispose of to the skipper of one of the French steamers which frequently visit this port.

Two Sparrows are common; one about as large as our House-Sparrow, but with a grey head and red-brown wings (*Passer diffusus*), which is usually met with round the native towns in company with Firefinches and Combassous. It has none of the impertinent tameness of our bird, but on the other hand is somewhat retiring, so much so that although I have at home one of this species, which I have had for five or six years, I never till recently recognised that the same species was quite a common Gambian bird, but always considered that my bird was an East African species, as I believe he reached England by an Indian boat. Our other Sparrow is a smaller bird, one of the Rock Sparrows (the lesser *Petronia dentata*) which is generally seen in flocks feeding on the ground in fairly open country, and is much more common near Bathurst and along the coast than farther inland. Its general colour consists of various shades of dull brown, the head in the adult cock, however, being grey; while in the young, and also, I think, in the adult hen, the head is brown like the back, with a distinct fawn eyebrow, of which there is no sign in the adult. I have watched a change taking place in some individuals among about a dozen birds of this species, which I brought home in 1902 and kept in an aviary at home for 18 months; there were originally only two grey-headed birds among my collection, but after about six months the change began in some of the others, and eventually there remained about three of each kind, true pairs, I believe—at any rate the grey-headed ones were the only ones I ever heard sing, the song being quite a sweet series of whistling notes.

BUNTINGS. Two birds of this family are known from the Gambia, the Red-winged Rock-Bunting (*Fringillaria septemstriata*), and the Golden-breasted Bunting (*Emberiza affinis*), but so far I have only come across the latter, which one not infrequently sees associating with Sparrows, Cordon Bleus and Combassous in the scrub left among the fields round the villages. It is a strikingly beautiful bird with its bright yellow breast and black-and-white striped head, and I hope to be able to bring some living examples home, as they would make most attractive cage-birds, and I think must be rare as such, for I never remember to have seen one in captivity.

LARKS. The Senegal Crested Lark (*Galerita*) is common, more particularly near the coast, where it frequents the sandy country near the sea-shore.

PIPITS. I have occasionally seen brown birds which I feel sure were Pipits, probably *A. campestris*, the Tawny Pipit, but I have never been able to actually identify one of them. There is however one member of the family fairly common, the Yellow-throated Pipit or Longclaw (*Macronyx croceus*) a beautiful bird about the size and shape of a Skylark, and marked like that bird above, but below having the throat and breast in both sexes a brilliant yellow. The name "Longclaw" is given to it owing to the extreme length of the claws on its hind toes, a lark-like feature, which must be of service to the bird in facilitating its progress over down-trodden or storm-laid grass. I have never seen them except in pairs, and they generally are found in the long grass round the dry swamps or rice-fields, where, when almost stepped on, they rise like Larks, but they never attempt to soar, and drop into cover again at the first opportunity.

WAGTAILS are common everywhere, especially during the winter, when numbers of both the White- and the Blue-headed Wagtail (*M. alba* and *M. flava*) frequent the sands near Bathurst; the latter is also common in the fields farther inland, where they are always to be found in small flocks or family parties, especially round the places where the cows are tied up at night, where insect-life is naturally particularly abundant, and, to a bird, no doubt most appetising. The Grey (*M. melanope*) and our Yellow Wagtail (*M. campestris*) have also been recorded as occasional winter visitors to the Gambia.

ORIOLES. A Golden Oriole, (probably *Oriolus auratus*, though it may be the European species *O. galbula*, I am not sufficiently versed in the subject to say), is by no means uncommon. They breed in large trees, but are rarely seen in the breeding season, when they keep mostly to the thick cover of the heavily foliaged trees. In the dry season, however, when the wild figs are ripe, the fruit of which comes before the leaves, the Orioles are often seen; indeed one rarely finds one of these trees in fruit that does not contain at least a couple of these birds, among the numerous other species all busily engaged in gorging the much coveted fruit.

(*To be continued*).

Notes on Housing and Hygiene.

By W. Geo. Creswell, M.D. Durh., L.R.C.P., F.Z.S.

(*Continued from page 27*).

Of course most people will wonder greatly at what I have just said about the bronchitic Canaries recovering from their ailment in the open air. The large majority of fanciers are so imbued with the idea that Canaries need warmth, because they originally came from a warmer climate than ours, that one can hardly pick up any book or paper treating of these birds without finding the most elaborate directions as to temperature and heating apparatus. If we go into any average birdroom we shall find the owner perhaps very conscientious as to the regularity of his cleaning operations and quite of the opinion that he has done nearly all that is necessary to his birds' welfare if only he keeps their cages neat and well sanded. When in addition to this he has stopped up every crevice through which fresh air can enter the room, and has installed some form of heating apparatus with a series of thermometers hanging to the walls in various places, he then congratulates himself that now at last all is right. But he has forgotten that oxygen is the most important constituent of the air breathed by all animals, and that carbonic acid is absolutely poisonous when constantly present in any considerable proportion over the normal 3 parts in 10,000. He recks not that every time a breath is taken the expired air has lost five per cent. of its oxygen and has gained five per cent. of carbonic acid owing to the changes that have taken place in the lungs. While he would fastidiously shrink from making his tea or even washing his face with dirty water, he scruples not to compel his helpless "pets" to breathe air reeking with poisonous foulness, and is perfectly content to regard this air, so it be warm, as quite clean enough to breathe, simply because he cannot *see* the impurities in it.* Now what is the result of all this disregard for the laws of life—laws made by that inexorable Nature who permits not the slightest infraction of any one of her decrees without exacting a corresponding punishment? That every time our friend sends his birds to a show he does so at the risk of their coming back with either a bronchial catarrh or perhaps an acute pneumonia, and when this happens he blames the Show Committee and writes letters to the paper after the true British fashion! If he sells a songster to an outsider it promptly goes on the sick list unless it is immediately relegated to the heated conservatory, and then he in his own turn is blamed as a man in whom the truth is not. His strain or variety comes to be regarded as shortlived and delicate, and so the vicious circle is rounded up—heat produces delicacy, delicacy requires heat. The birds become more or less anæmic—that is to say the blood becomes deficient in the number of red corpuscles, the carriers of oxygen to the different parts of the body—their hearts become functionally diseased, and they become utterly unfitted to withstand either any sudden change of temperature or the attacks of any microbe. In short, what should be one of the hardiest of birds has now degenerated (in this respect at least) into one of the frailest and most weakly, and not even the most fancy of fancy varieties need be that if managed on hygienic lines.

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* The following is a simple test for the presence of carbonic acid in the air of a room. Fill a transparent medicine bottle (in the open air) with ordinary clear lime-water. Cork it up and take it into the room to be experimented on, and then while there pour away half the lime water and tightly replace the cork. The bottle is now half-filled with the suspected air. On a vigorous shaking of the bottle the carbonic acid in the contained air will combine with the dissolved lime in the water, causing this latter to become milky in appearance, and the more carbon dioxide (carbonic acid) there is present the whiter the resultant will be.

Take another case. A fancier who is sensible enough to breed his birds either out of doors or else in cages in a cold room, sells a songster to some person who wants one to enliven his house. Such a bird would be able to live and enjoy his life practically anywhere except where he will presently find himself: he would thrive mightily in quarters like those he came from : kept even on the dining room table or on a stand in the ordinary living room he would be healthy and merry, caring nothing for the changes between the warm days and colder nights, and having enough close human companionship to console him for his solitary confinement and to prevent him from moping himself into a condition receptive of disease and death. But none of these situations will be his happy lot. He will be either hung up in the drawing-room window just above the meeting of the sashes so as to shew off his beautiful brass cage to the outside public, or else he will be stuck up in a dirty wooden cage close to the ceiling in the darkest and warmest corner of the living-room or kitchen. In the first case it is true that he will most likely be properly looked after as to seed and water, but on the other hand he will be constantly exposed to every draught that blows, and sooner or later will reap the certain harvest of catarrh and bronchitis, however strong and robust he may have been at the beginning. If it is his still more miserable lot to be placed in the "warm corner" under the ceiling he will never again know the pleasure of breathing even comparatively clean and healthy air, while at night when the gas is alight his sufferings will be simply intense. Let his owner stand on a pair of steps for just one half hour with his face on a level with the cage of the unhappy prisoner, and let him then try to imagine what it must be to live up there from day to day and week to week, with no companionship of his own kind, no ray of sunshine, and with nothing to do but satisfy the cravings of hunger and thirst with monotonous seed and dirty water which has absorbed all that it can of the foul gases at the top of the room! Stay! there is just one other thing to do, and the bird does it. He sings from morning till night, but only to kill time and to satisfy his instinctive desire to call to and please a possible—but alas! improbable—mate. At last, racked with a nightly headache caused by mephitic vapours, and oppressed with a constant malaëration of his lungs, he suddenly dies of previously unsuspected disease, singing to the end. His owner, with tears in his eyes, will tell you he "sung hisself to death, he was that wonderful good!"; the amateur bird - doctor, giving his valuable opinion *in absentiâ* and knowing nothing about the case except that the bird has had some packet mixture to eat, will tell you, with conviction in his voice, that he died—of inga seed. Another bird is bought, the inga seed is discontinued, and in due course the cage is again empty—through poisoning with foul and mephitic air. This lamentable picture of unintentional cruelty is by no means overdrawn. It is true that there are many people who keep their birds under the influence of a better environment, but it is nevertheless a fact that the state of affairs which I have here described is even in these days far too common.

It is just the same with horses. Under the conditions to which they are frequently subjected they suffer more or less like our cage-birds. For the most part they live in stables affording far too little cubic space for their bulk, with every crevice carefully stopped up by a groom whose chief characteristic is ignorance of the most obstinate type, and consequently in an atmosphere highly charged with the exhaled products of respiration and the irritating fumes of ammonia carbonate. Then at intervals they are led out of their hot and close apartment into the yard, there to be stripped of their rugs and to stand in the cold while undergoing the process of grooming. As a natural consequence the master is constantly being annoyed by a tap at the study door and "Beg pardon, Sir, but the bay 'oss, he's off his feed this morning, Sir, and he do cough awful bad, Sir."

If on the other hand one buys a horse at the back end of the year, perhaps a three-year-old, or it may be a cheap and useful screw in want of rest, and then turns him out for a twelve months' run, this animal while out in the open will go through the most severe winter without the slightest cough. All this has been my own personal experience in my old horse keeping days and can be corroborated by many other horse owners all over the country. Then again I am old enough to remember the time when cases of consumption were carefully boxed up in stuffy rooms to run their invariable course to certain death. To-day a more enlightened spirit is abroad and such patients are treated with a regimen of open air, both by day and by night and at all seasons of the year. Moreover it is found that the presence of a certain amount of bronchitis is no bar to this treatment, and that by degrees this affection improves *pari passu* with the the main trouble. The fact of the matter is that oxygen and natural light are not only the indirect cause of death to the *bacillus tuberculosis* when this is established in the animal tissues, but are, when combined with steady exercise and rational feeding, absolutely essential to the health of the mucous membranes of all mammals and birds.

(To be continued).

The Common Firefinch.

(*Lagonosticta minima*).

A translation from Dr. KARL RUSS'S "Die fremdländischen Stubenvögel."

By E. HOPKINSON, M.A., M.B., D.S.O.

With notes.

(*Continued from page* 35).

THIS account and all the other information which Viellot gives, I can fully confirm from my own experience, as the Firefinch is one of the birds which German aviculturists have bred frequently and most successfully; in my own bird-room, (where it was the first foreign bird I ever bred), the young have been reared with most fortunate results. It was with these Waxbills (and then with Cut-throats and Zebra-finches) that I gained my earliest experiences, and as a result published in the pages of the "Gartenlaube" the first description of their acclimatisation and breeding in captivity. Although I have been most successful in breeding these birds, I cannot claim to have been the first to breed them; this honour belongs to Herr Leuckfeld of Nordhausen, one of the earliest and luckiest of German foreign-bird breeders, who was the first who succeeded in breeding this, as well as many other species. Since then these birds have repeatedly been bred by others both flying loose in aviaries and even in cages (*a*).

The Firefinch is a true Cosmopolitan, who knows how to accommodate himself to every situation and always derive the greatest amount of benefit from it.

(*a*) The Firefinch has not been bred in England very often, but Mr. Farrar in the *Avic. Mag.*, October, 1898, reports that he successfully reared one young bird in the summer of that year in a cold indoor aviary, in which the parents had passed the winter without any artificial heat either then or during the breeding season.

His peculiar and characteristic tail-movements betoken a quiet and reliant temperament, never wagging here and there laterally, but as it were meditatively and deliberately up and down goes the tail, with only a very occasional upward jerk under the influence of any unusual excitement. The first pair in my bird-room daily slipped with incredible boldness over our heads as we opened the door into the sitting-room, in order to seek here building material, and worms or other insects from the numerous flower-pots about. But still more marvellous was the way in which they returned through the door, even if it was only open a little way. I have only noticed this trait in a few other species, such as Zebra and Grey Waxbills, whereas others, for instance Bronze Mannikins, though in all else very cunning little birds, if they have escaped into another room, by no means easily find their way back, even if the door be widely opened.

The nest (in captivity at least) of the Waxbills, who seem quite satisfied with many different situations for it, varies in structure according to its site and surroundings: they are just as likely to choose a Hartz cage as a closed nest-box to build in, or sometimes will select some hole or other, or even an open nest-box, especially if this is more or less concealed by brushwood, but the nest is never actually built in a bush without any other support. Its base is formed of coarse stalks, dry leaves, or other greenery heaped together, the sides and top being built up of long strips of soft paper or bass, sometimes feathers, horsehair, agave-fibre or hay, while the interior is lined with such things as wood-wool, soft short hairs, tow, feathers, rags, etc. The nest is always roofed over and is is spherical in shape, with a small opening in the side, generally nearly circular, but occasionally quite concealed. In the late summer when one can supply the birds with fresh asparagus grass, they make a wonderfully clever nest almost entirely out of the long soft strips this plant provides. All breeders of this bird, and particularly Doctors Rey and Baldamus, have referred to the artistic neatness of its nest, which the first-named likens to that of a Willow-Wren.

The Firefinch so readily takes to a new nest, that one can usually easily induce them to start nesting by arranging a well-cleaned Sparrow's or other bird's nest in a basket or Hartz cage, and to this they will keep adding feathers, etc., as is also the habit of some of the other small *Ploceidæ*, while the hen is sitting, and especially after the young are hatched.

The laying varies between three and seven eggs, the usual number being four. The nest-down of the young is brownish white ; the gape-angle is white and the roof of the mouth blue.

In their first feather the young are above brownish tawny-grey, below light brownish-grey, and there is only a little pale dirty red on the rump extending as far as the middle of the tail and the outer halves of the feathers beyond, markings which are absolutely diagnostic of the species. The bill is glossy black, the eye dark with no yellow rim and there are no spots on the sides. The red of the adult begins to appear from the third to the fifth week, and is often complete by the end of the sixth, though frequently it is months before the full colour is attained ; the time taken depending both on the food supply and the atmospheric conditions, especially on the temperature ; the higher this is kept, the more quickly and better-coloured do the young become. From a single red feather here and there on the forehead, neck or breast, the colour should rapidly spread over the whole body, the beak becoming almost wholly red at the same time. This, of course, refers only to the cocks, but the hens meanwhile are changing their greyish dress for one of yellowish brown.

In all their breeding habits and in the rearing of their young, these birds closely resemble the Grey Waxbill, and like them are among the few Ornamental Finches which can be bred with success in a small flight-cage, no extras or additional assistance being necessary except the maintenance of a high enough temperature. To be sure I must here mention, as a matter of curiosity, that in the bird-room of the well-known oologist, Dr. Baldamus, a pair of these birds mated and reared their young, at a time when their water was frozen every morning, but I need hardly add that one must not argue from this one most exceptional case, that these delicate birds from the Tropics, will as a rule and without difficulty go to nest in an unheated room. On the other hand, it is the common experience of all breeders that the many obscure diseases of the female, which Viellot particularly deplores, and the mortality among the young in spite of the greatest attention and care, are entirely attributable to deficient warmth or a too variable temperature in the breeding-room. For instance, Count Yorck, of Wartenburg, who never allows the temperature of his bird-room to fall below 68* Fahr., certainly has the best breeding record with small foreign birds of any one in Germany. For further particulars I must refer the reader to the Section on Breeding (*b*), where information on various other points will be found, and where I lay special stress on the need for extra heat during the time while the young are coming into colour.

(*To be continued*),

(*b*) Lehrbuch der Stubenvogelplege,—Abrichtung und—Zucht. (Magdeburg, 1888), the 4th volume of Russ' great work, Die fremdländischen Stubenvögel.

The Story of Bird-Death.

By W. GEO. CRESWELL, M.D. Durh., L.R.C.P., F.Z.S.

(Continued from page 39).

EVEN among birds of prey and scavenging birds there is found to be much diversity as to power of resistance. The hawks and owls which live on small animals and birds, and often indeed on the larger insects, and which to the best of my belief are very immune in a state of nature, are by no means exempt when in captivity. Mr. Bonhote, an enthusiastic keeper of those birds for many years, tells me that occasionally he has lost a specimen from an illness characterized by severe diarrhœa, and some time ago he was good enough to send me one which had so died. Owing to some delay in the transmission this was unfortunately of no use for any accurate examination, but shortly afterwards he forwarded to me a Barn Owl, which though still alive was evidently not far from death. This bird, which was very emaciated, (shewing that it had withstood its trouble for some time), I killed with chloroform, and then examined with the usual antiseptic, or rather aseptic precautions,* making my cover-glass preparations while the body was still steaming. I found all the abdominal organs in a state of active inflammation and to be swarming with the bacillus of septicæmia. Learning that these birds were being fed on fresh beef trimmings and rats, and bearing in mind their habits when at liberty and that they then necessarily often eat flesh tainted with septic germs, I dismissed the beef from my mind as a possible cause, and asked that a rat should be shot some morning and despatched at once, so that I might get it the same day. This was done, and I received a large, well nourished, and apparently very healthy specimen. Despite this appearance I found it to present on examination the typical macro- and micro-scopical signs of acute septicæmia; in fact it was in exactly the same condition as a cagebird with malignant septic fever. Three other rats which were subsequently sent proved to be healthy, but in view of the cannibal propensities of these animals, especially in connection with sick members of their community * the presence of even a few diseased ones about a farm would constitute a very serious danger to any birds fed upon them, and more especially to youngsters reared from the nest in captivity or old ones newly caught.† Previously to finding septicæmia in this rat I was not aware that these animals were susceptible, but it has long been known that mice are very liable to the disease. I would therefore warn my readers against adopting the advice so often given them as to the expediency of using these latter animals as a part of the dietary of their Jays and Drongoes and other birds. Even if a wild bird were able to withstand the effects of feeding on an infected specimen it is manifest that one which is already placed by captivity in a bad position as regards disease resistance would soon succumb to the untoward influence, and so untimely go the way of all flesh, to have its death certificate couched in the terms of "tuberculosis" (in which no tubercle bacillus can be found), or else "not enough egg-food and insufficient warmth,"—based on senseless

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* With the view of preventing any importation of micro-organisms from without.

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* Buckland. *Curiosities of Natural History*. 1903. Page 75.

† It is popularly supposed that fur is necessary to raptorial birds as an aid to their digestion, but like many other common beliefs this may be dismissed as erroneous. It is itself non-digestible, it contains no digestive ferments, and is not even of any mechanical use in the early stages of the process. After separation from the soft parts in the stomach it is merely rejected in the same way as a boy rejects the portions forming the core of an apple after he has separated them from the pulp with his teeth, tongue, and buccal muscles.

guesswork, the outcome of "experience" and want of knowledge.

Even Vultures, those scavengers who will eat anything, however stinking it may be, do not appear to be absolutely exempt from the danger of septicæmia, since there are records of one or two cases among captives where the *post mortem* appearances accorded with those which we are so familiar with.

Amongst those wild birds which in a state of nature are found to suffer from the disease are various game birds, (especially Grouse), and the Wood-pigeon. I have myself had instances in these birds under my own notice, and it is highly probable that many more avine species will be found to be affected while yet free now that attention has been drawn to the subject.

(To be continued).

Post Mortem Reports.

(*Vide Rules*).

GOLDFINCH. (Mr. Carrick). The duodenum, i.e. the portion of the small intestine just below the stomach, was ulcerated. This had resulted in perforation, with escape of the contents of the bowel into the abdominal cavity. The bird was very emaciated, as would be only natural in such a case.

BICHENO'S FINCH, hen. (Mrs. Dutton). This bird, which was already too fat, and required no egg to still further fatten it, died of egg binding. The oviduct contained an egg ready for expulsion, but broken. Other eggs were in various stages of development. I should advise a careful perusal of the last three or four instalments of the "Story of Bird-Death." The birds in my aviaries require nothing more than ordinary diet, and do all the better for plain living. Like other people I gave egg food for years, but am glad that I now know better than to do so.

SISKIN, cock. (Mr. Horton). The mucous membrane of the eye and eyelids was much inflamed and thickened. The orbital contents were also much inflamed and the brain congested. There was also a scar just above the eye. It would seem that the trouble originated from an injury: otherwise the bird was healthy.

CORDON BLEU, cock. (Mr. Horton). Obtained from a dealer the day before death. Enteritis was the cause of death.

PEKIN ROBIN. (Mr. Moxon). This bird, like two others obtained from the same dealer, died two days after purchase. The cause of death was enteritis—septic in origin.

SPICE BIRD. I regret to say that this bird and the accompanying letter were inside the same box, and were therefore burnt without examination. Each month this report is headed "*Vide Rules*" and these are to be found printed in the inset of most of our issues.

BUDGERIGAR, cock. (Rev. R. H. Wilmot). Pneumonia in both lungs caused death.

SISKIN, cock. (Mrs. McAdam). Supposed to have been ill only two days. Very emaciated, intestines and liver very much engorged: pneumonia of right lung. The bird had really been ill for some time with chronic enteritis and congestion of the liver. The pneumonia was of recent origin.

GOLDFINCH. (Mr. Horton). Fatty degeneration of the liver was the cause of death.

REDRUMP, hen. (Mr. Mathias). Eggbinding was the cause of death.

CAPE CANARY, hen. (Mr. Fillmer). This bird, which had been in feeble health ever since its importation over four months ago, was found to have been suffering from chronic congestion and fatty degeneration of the liver.

CANARY nestlings. (Rev. R. E. P. Gorringe). These little birds had decomposed during the 36 hours which had elapsed before delivery to an extent which precluded any reliable results from examination. I note that the first lot which died had not been fed on egg and that this nest had therefore been fed with a little egg. Naturally no one knows what the former nest died from; it is equally impossible for me to say under the above circumstances what killed these, but I advise perseverance in the non-use of egg. I rear a greater per-centage without this food than with it.

YELLOW BUDGERIGAR, hen. (Mr. Slatter). Recently bought. It had congestion of the liver of long standing and a recent pneumonia. As might be expected it was not in breeding condition, no ova being in the slightest degree developed. This variety is just as hardy as the ordinary green one. The absence of green is not " the form of albinism peculiar to this species," as I have seen stated, but is due to the absence of a structural peculiarity in the barbules of the feathers, which in the ordinary variety gives rise to the optical illusion of green being actually present. Albinism means absence of any pigment whatever.

W. GEO. CRESWELL.

Short Notes, and Letters to the Editor.

COCOA NUT FIBRE.

SIR,—In reading *Post-mortem* Reports for March, I note Dr. Creswell's remarks *re* cocoa nut fibre. I was advised to use this, but discarded it, finding that the longer pieces of the fibre became twisted round the birds' feet. I now use moss peat. At one time, when I was out of peat in the bale, I sent for a small bag, which arrived when I was away from home, and some of it was used for some Blackbirds and Starlings, with the result that next day two were dead. Upon examining the peat in the bag I found it was all fine dust, in which state it should not be used. When mixed with sand or road dirt, and damped, I have had no ill effects from it.

JOHN ACUTT.

[Dr. Creswell strongly deprecates the use of *road dirt*. He also regrets that the two dead birds were not sent to him that he might have verified the cause of death. ED.]

THE MORTALITY OF BIRDS DURING IMPORTATION.

SIR,—It would possibly interest many of the amateur bird fanciers and collectors among your readers, besides myself, if some of your readers who are connected professionally with the foreign bird trade would give their opinions and experiences of the percentage of mortality among their imports.

I started my aviaries some ten years ago, and was constantly adding to my collection by purchase, but have now for several years quite given up buying from dealers on account of the conflicting statements made to me on this subject. On the one hand I have been told by a dealer that the high price of a certain bird was due solely to the enormous percentage of mortality before it was exposed for sale in England, amounting even to 95 per cent. On the other hand another dealer on being asked has pointed to a cage, just received, containing several hundreds, possibly thousands, of Waxbills, among which he assured me he only found one dead.

Having a great aversion from encouraging a trade, however slightly, that might necessitate even half the mortality I have mentioned in the first case, I have, to be on the safe side, refused to buy a single bird from a dealer, and shall continue to do so till I am reassured beyond a doubt that the percentage of mortality is very much lower than at present appears to be the case. I feel sure that any reliable information that may be forthcoming on this subject will be of interest to your readers, and shall heartily welcome any reassurance that the reports of the percentage of bird mortality among imported birds have been grossly exaggerated. I have never submitted my name for membership of the Foreign Bird Club, but as a constant subscriber to, and reader of your most useful little journal "BIRD NOTES," I trust you will see your way to insert this letter in your next issue. I have never wished to join the Foreign Bird Club as I have a strong objection to keeping birds in cages, and also to all shows of "Live stock," excepting of course such shows as have for their object the improvement of the breeding of live stock for the use (as distinct from the amusement only) of man.

H.

[We must remind our correspondent that the Foreign Bird Club is in no way specially identified with the keeping of birds in *cages*.

As to the Show question, the suffering inflicted on birds during capture and importation (whether this be much or little), is so incomparably greater than that involved in their exhibition at Shows, that we fail to understand how anyone who condones the former can have scruples about the latter.—ED.]

TAPE-WORM IN PARROTS.

In "Cage Birds" for 12th March, 1904, Mr. Seth-Smith replies as follows to a correspondent, under the above heading:—"I have never before heard of tape-worms in a Parrot, and imagine it is a most unusual case. Dr. Greene, who is our greatest authority on the diseases of cage birds, does not mention it in his useful little work on this subject, but mentions a somewhat similar malady which affects gallinaceous birds. He suggests jalap as a remedy for fowls, but I should hesitate to give this to Parrots. It is possible that some reader may have heard of a similar case having been cured, and will give the readers of "Cage Birds," the result of their experience."

The following letter appeared in the next issue:—"Sir, In answer to Mr. Seth-Smith's request in your issue of last week for further information on this subject, there are, roughly speaking, about a dozen different species of *Cestode*, or tape-worm, which are found in the intestines of various species of birds of various genera. In their anatomy, physiological structure, and life history especially, which together form one of the most interesting chapters in Natural History, they are entirely different from the *Nematodes*, or round worms, to which section belong the *Heterakides*, alluded to by Mr. Seth-Smith. Among themselves, too, there are important and striking differences. Under these circumstances, the treatment necessary for their destruction and expulsion needs to be quite different from that adapted for the round worm, and to be both safe and successful, should be carried out by some one who understands both the worm and its host. Mr. Seth-Smith was quite right in hesitating to suggest the use of jalap for "Hillside's" Parrot; whatever effect it might have on any *Heterakis* (in which connection it was originally recommended), it would have none whatever on a *Cestode*, and would in such a case only irritate the bird's intestines to no purpose. A few hours' withholding of all food and drink, followed by a dose of oil of male fern proportionate to the size of the bird, to be followed by food after a certain time, and then again by a suitable purgative, is the only available treatment. The extruded segments of the worm (or worms in the case of those particular species which are multiple), must be carefully examined to make sure that they are all there. If the head (or heads), be not killed and detached from the wall of the gut, the worm (or worms), will only grow again.

W. GEO. CRESWELL."

THE BIRD OF DEATH.

SIR,—The startling paragraph which Mr. Swan has excerpted from a lay paper is a good instance of how scientific matters can be jumbled up by unscientific people. The symptoms given are a fairly good picture of the leading ones of tetanus, and since the bacillus which gives rise to this disease is found in the soil, (and indeed in some hot climates it is so plentiful in certain localities that the natives simply use earth to prepare their poisoned arrows), it might easily follow that a bite on the part of any sharp-beaked bird, which had been soiling its beak, might produce an attack of tetanus in the person bitten. Such an isolated instance would naturally be perverted by the ordinary journalist into a *trait* belonging invariably to some special species. Even supposing that the Rpir N'Doob is a bird which habitually seeks its food in tetanus-laden earth, it is clear that the bird itself is not "venomous," but that it is only a carrier of the noxious agencies. Tetanus is not found in all soils alike.

W. GEO. CRESWELL.

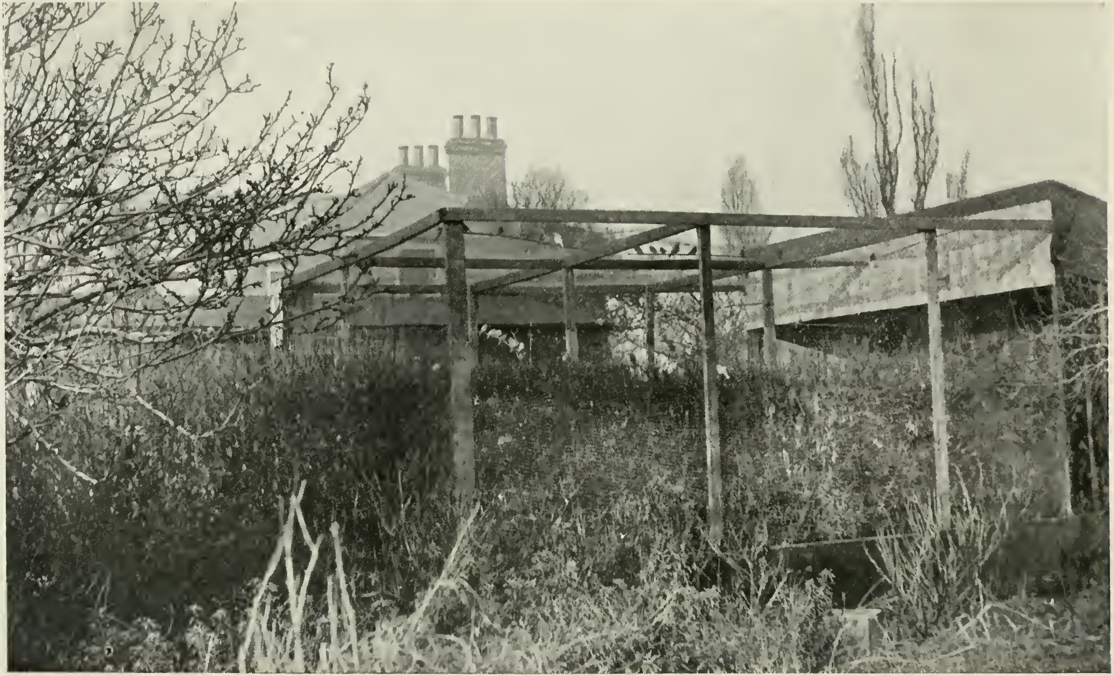
SAFFRON FINCH HYBRIDS.

SIR,—Can you tell me, through "BIRD NOTES," the best way to get a cross between a Saffron Finch and a Canary. I know it is possible, and should like to try.

E. BROOKSBANK.

Without in anyway questioning the possibility of a cross between the Saffron Finch and the Canary, I must point out that there is no really well-established instance on record; and that it is, at all events, a difficult hybrid to obtain. A bird was exhibited at the Crystal Palace in 1899 which its breeder believed to be a Canary × Saffron Finch hybrid, and which in appearance supported this opinion—but it appears to have been bred in an aviary containing a number of Canaries and Saffron Finches, of both sexes, as well as other birds, and may have been an abnormally coloured Saffron Finch. In that case the male parent was supposed to be the Canary. The best way to obtain hybrids is to turn the birds into an outdoor aviary, if possible by themselves, but at any rate without examples of the opposite sex of their own species.

H. R. FILLMRR.



MR. R. SUGGITT'S AVIARY.

From a photograph by the owner.

My Aviary.

By R. Suggitt.

In March 1903 I built a roughly constructed aviary, with the idea of keeping a number of Foreign seed-eaters and British finches permanently in the open. The structure consists of a match-boarded shelter, facing South, 16ft. by 10ft; and a flight, 16ft. by 16ft., covered with half-inch mesh wire netting. The whole on a brick-work foundation 18 inches in depth.

The shelter, consisting of an inner shed and outer covering, (which projects beyond the shed proper for 5ft.), is fitted up with breeding husks, nest boxes, and dead branches. Under the outer cover I hang the seed hoppers, each hopper containing one kind of seed only, as I find that if the seed is mixed, the birds, in their endeavours to get their favourite kind, scatter the other on the floor, and in consequence much is wasted.

The flight is built over a rather thick privet hedge which has been growing for some years, and in addition I have planted several evergreen shrubs in the sheltered places, so that there is an abundance of nesting sites. I am afraid the hedge will make a very poor "show" this year, as the birds strip off the buds immediately they appear, in spite of the fact that green food is regularly supplied.

Last summer I turned out an assortment of common foreigners. The survivors include Mannikins, Green Singing Finches, Weavers, Zebra Finches, Silverbills, Java Sparrows, Common Waxbills, Orange Cheeks and Avadavats. The Waxbills, although considered rather delicate, did not seem to be seriously inconvenienced, even in the coldest weather. Considering that my aviary is within 100 yards of the Humber, in a fairly open situation, I think this is a good test of the hardihood of the species named, and I am in hopes that they will breed freely this season, after spending a winter in the open air.

Since October 1st last year, I have lost a pair of Zebra Waxbills, a pair of Nonpareil Buntings, a hen Green Singing Finch, cock Bronze Mannikin, and three Zebra Finches. During the winter, with the exception of Javas and Zebra Finches, none of them attempted to breed. Some of them are, however, now commencing.

I succeeded in rearing four broods of Russian Goldfinches, three Bronze Mannikins and several Zebra Finches. A pair of Russian Bullfinches hatched two broods of young ones, but although the parents appeared to look after them well, they died when about a week old.

All the birds appear to agree pretty well, with the exception of a cock Bishop, who, at times, gets rather "frisky," and chases whatever bird comes near him. After he had killed a young Goldfinch last summer I removed him until after the breeding season, together with a pair of Bramblings, the cock of which I caught, red-handed, murdering a brood of newly-hatched Twites. None of them appear to like a fresh arrival, and if it is a single bird it is very fortunate to escape with a rough handling.

I have had great difficulty in getting rid of mice, which I am convinced pass with ease through the half-inch wire netting.

The Story of Bird-Death.

By W. Geo. Creswell, M.D. Durh., L.R.C.P., F.Z.S.

(Continued from page 63).

As we should expect, the highest degree of immunity is found in domestic poultry and pigeons. In the aggregate enormous multitudes of these birds are bred and kept all over most civilized countries and often indeed in uncivilized ones. Fanciers and farmers possess them by the hundred, and nearly every back yard and cottage garden in our own towns and villages holds a fowl pen which is nearly always much overcrowded and generally contains in addition to its primary occupants a pair or so of pigeons kept " to please the boy." Such conditions have necessarily accentuated the racial quality of indifference due to long domestication. As to this latter we learn that in 1400 B.C. the fowl was kept in China, having been introduced thither from the West, *i.e.* from India.* As to the truth of the former, the general proposition, let us by way of illustration contrast the behaviour of some of the sub-breeds. Hamburghs and Campines, while much more hardy than Buff Cochins in relation to exposure to climatic conditions, and while much better able to forage for themselves, are universally known not to thrive well in small enclosed runs, whereas the Cochins, being heavier in build and more sluggishly disposed, and having in consequence existed for ages in closer contact with insanitary conditions, are much healthier in pens than the other two varieties mentioned. And among fowls generally—the results of foul air, dung-sodden ground, food necessarily tainted by contact with this latter, and of water always more or less impure, are seen to be that compared with the enormous head of birds the sick and death rates are

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*Darwin. *Plants and Animals under Domestication.* 2nd Edit. page 259.

very small. The unfit have been steadily eliminated through successive generations: the more resistive are with us yet.

Pigeons show this even more markedly, as would only be natural seeing that their domestication has existed even longer than that of the Fowl. Passing by the distinct reference to them in Genesis xv. 9 (date about 1900 B.C.), we find them mentioned during the fifth Egyptian dynasty, about 3000 B.C., as already existing in a domesticated condition.* And as we find that from the earliest times there has always been practised in connection with them a more or less rigid system of artificial selection, necessitating the keeping of them in large numbers, and since both Pliny and Juvenal speak of their being kept in "cock-lofts" on the tops of the houses, we know that their housing must always have been characterized by overcrowding and general insanitation. A curious confirmation of the principles attaching to racial immunities is to be found in the fact that even now the prevalence of a wet season, and more especially the presence of a non-waterproof covering to the Pigeon house, will bring about a few septicæmic cases in studs of Pigeons that otherwise remain free for years in succession. Their quarters have always been more or less drier than those devoted to poultry, and hence they cannot even yet altogether withstand the septic bacillus when it is invigorated by the presence of moisture.

There remains yet to be mentioned a form of immunity which we may call sporadic, *i.e.* attaching to individuals apart from any question of any racial immunity in which they might or might not have the chance of participating. This sporadic immunity, which has been alluded to in various connections in

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*Darwin. *Plants and Animals under Domestication.* 2nd Edit., page 214.

the course of the preceding pages, may be either absolute and permanent, or it may be only temporary, as in the case of the two medical students, who after apparently proving themselves to be immune against scarlet fever, ultimately contracted it during a period of depression of their vital powers, with the result that one of them died.*

There is also found here and there an immunity of a limited application—viz., that possessed by an individual *tissue* against some definite bacillus. This form hardly comes within the scope of our present consideration and can only be said to apply indirectly to our subject, but I here give it a special notice because an instance of it has been unconsciously and inconsequently used in the course of a premature attempt to show the readers of a certain Magazine, (which for some reason or other eschews modern science), how little dependence need be placed on my conclusions, and in what urgent need I personally stood of being told of even the existence of any kind of immunity at all. In this communication, which can only be described as being somewhat of the *lucus a non lucendo* order, my critic hastened to tell us that the tetanus bacillus is frequently found in the intestines of the horse without his suffering any inconvenience from its presence "excepting under certain conditions." Seeing that the normal home of this bacillus is on and near the surface of the ground, especially that which is not frequently being broken up, it would indeed be extraordinary if it were not found in the intestines of an animal who may any day be observed to pull up occasional mouthfuls of grass by the roots and eat the whole lot, earth and all. It would, I say, be in the nature of a veritable miracle, were it not almost habitually found in the cavities specified, when we consider that it can be isolated

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Green. *Pathology and Morbid Anatomy*. 9th Edit., page 286.

from almost every utensil or article of horse furniture found in almost every stable.* But on the mucous membranes—and here my attacker had the chance of displaying his knowledge—it has no more effect than it would have on the tail-board of the cart behind the horse, or than the vaccine virus has on the unbroken skin of a child's arm. Only when the bacillus has been placed in contact with subcutaneous or submucous tissues has it either any inducement or any power to throw out its toxins and to produce the intoxication known clinically as tetanus or lockjaw, and it is *only then* that we can begin to discuss the immunity or otherwise of the horse either as a class or as an individual. Neither even does the bacillus produce its *intoxication* in the same way as our septic bacillus produces its *infection*. The stray fact, therefore, which was so readily quoted, and which is probably known to most men, is seen to show no parallel with anything I have said in relation to septicæmia. The question of immunity on the part of the individual only steps in *after* the "certain conditions" have been fulfilled, and *not before*. In the case of tetanus these conditions are not ingestion; in septicæmia of birds they are.

Critics also would do well to observe the "certain conditions" which attach to the due and efficient performance of their own functions: they are only two in number—the first to know what the criticised is talking about, the second to realize what they themselves are saying.

(*To be continued*).

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*G. Sims Woodhead. *Bacteria and their Products.* 1891, page 22.

Bird Notes from the Gambia.

By E. HOPKINSON, M.A., M.B., D.S.O.

(*Continued from page* 51).

STARLINGS. Of these the most widely distributed and commonest species is the Long-tailed Glossy Starling, which is found everywhere, in trees, in the fields with the cattle or feeding in flocks on the ground in the ricefields or swamps. The next commonest is the Purple-headed Glossy Starling (*Lamprocolius purpureus*), which frequents much the same situations, but usually goes about in much larger and very noisy flocks. I have seen two other species (and of course there are others I have not met with), namely the smaller *Pholidauges leucogaster*, the White-breasted Starling, a lovely bird with metallic maroon upper parts and white breast and belly, and *L. chloropterus*, the Green-winged Glossy Starling. The Glossy Starlings are all lively, confident and noisy birds, typical Starlings in every way, while *Pholidauges* is, as far as I have seen, much more retiring in its habits and less self-assertive than its larger and more gregarious relations. I must not forget to include the Oxpeckers (*Buphaga*), brown, Starling-like birds with yellow and red bills, which live on the ticks and other insects which infest the cattle. They are seen hopping round and hanging to the hide of the beasts, busily engaged in searching the hair for their prey, a service which delights the animal, even apparently when the bird is pecking at what looks like a painful sore.

CROWS. The common Crow of the Gambia is the widely distributed African species, *Corvus scapulatus*, the Pied Crow, one of which I kept during my last tour in this country and which I eventually brought home. Like all Crows, he took kindly to captivity, and is, I believe, still alive at the Zoo, though the last time I saw him he was still unable to fly, having never recovered from the effects of the rough wing-clipping he received at the hands of the native who brought him to me. There is another bird which I think is also Corvine, the Pie-pie of Bathurst boys, of which I believe the scientific name is *Cryptorhina afra*. This bird, which looks very like, and in habit much resembles, a large black Starling, is very common in Bathurst, and to a less extent in the towns farther inland. It congregates in small parties and feeds on insects round cattle or sheep, or on offal in the streets and yards. Its plumage is glossy black with a dullish green sheen, and the sexes are alike, except that the cock has a red, and the hen a black beak.

TITS. We have only a single species of this family in Gambia, *Parus leucomelas*, a black bird about the size of our Great Tit, with a white wing-patch, which so far I only remember to have seen once, namely at Quinella on the South Bank, though I am told that it is quite a common bird here.

DRONGOS are to be seen everywhere, the commonest species (in fact the only one I know), being *Dicrurus afer*, a black bird about the size of a Cow-bird with a slightly forked tail. They are very tame fly-catching birds, which are seen everywhere, perched on a bush or small tree, making frequent excursions into the air or to the ground to catch passing insects.

SHRIKES. Gambia, like all West Africa, is very rich in Shrikes, many of which are everywhere common. I am afraid I do not know the family well enough to be sure of my ground in the matter of identification, as indeed my readers must remember throughout this article. I am not conversant enough with the science of ornithology to have more than a rough idea as to the different species, and so in this and the following families my names are always open to correction.

Perhaps the commonest of all our Shrikes is a long-tailed brown-coloured bird, called by the Mandingoes, "Chaja." Its haunts are the bush and low trees, generally close to the villages, where it associates in small parties, feeding mainly on grasshoppers.

Another common species is the Black-headed Shrike (*Telephonus*), which utters a loud sweet whistle, quite a song in fact; the general colour above is brownish, below white, and crown black. Besides these and other plain-coloured birds, there are the gaudy Bush-Shrikes, one, I think a *Laniarius*, being black above with a yellow eyebrow, and having the whole under surface bright scarlet, and another, *Malaconotus sulphureipectus*, grey above and yellow below; these are generally found in fairly dense bush, and show a particular partiality for the matted undergrowth which borders many of the swamps, and are much shyer birds than their plainly dressed allies. There is also a Shrike which is either the Woodchat (an occasional visitor to Britain) or a nearly related species, which frequents open country, especially the corn fields, where it uses the tall stalks which are left standing when the heads are cut at harvest-time, as posts of vantage from which it can espy and swoop on its prey. The Wood-Shrikes (*Prionops plumatus*) are also generally distributed throughout the country, especially on the many ironstone ridges which intersect the country, and which are clothed with thin scrub and thorn bushes, among which these birds flit in noisy parties of a dozen or more, hurrying from tree to tree, as if every moment was of vital importance, and as if they were forbidden to stop longer than half a minute on each tree. They are altogether very striking birds with black and white pied plumage, a long white crest and peculiar fleshy eye-rings, yellow in colour and scalloped on the outer margins.

FLYCATCHERS. Of these I know only two species well, the common Spotted Flycatcher of Europe, and the beautiful Long-tailed Paradise Flycatcher (*Terpsiphone*), though there are others not uncommon, one of which is a beautiful blue bird which appears to visit this country only during the rains. The Spotted Flycatcher is common here all the winter months, especially along the river, where his methods and manners are in no way different from those we know so well at home, and where one hopes the chief article in his diet is the (epithetted) mosquito.

(*To be continued*).

Bird Pictures at the Royal Academy.

By H. Goodchild, M.B.O.U.

To those of our Club who find, in the annual exhibition at Burlington House, their chief interest in the bird-pictures, the present Show will be a disappointing one.

Nothing by Thorburn, nothing by Lodge, nothing indeed by any of the recognised bird painters. Knowing that for the last year or two we have not had the pleasure of seeing pictures by either of the above artists, I was not so much surprised, on looking in the catalogue, to find that their names were absent. But I fully expected to find something by that distinguished amateur, Sir Harry Johnston, whose intensely realistic paintings of bird life, as seen by himself in tropical Africa, were a feature of recent exhibitions. It was therefore with a greater sense of loss that I found that even he was not represented.

Few indeed were the pictures which had birds for their principal subject—few indeed contained birds at all. Of those that did, domesticated birds had generally been selected.

Taking such pictures as contained birds in the order in which they are ranged in the catalogue, the first that occurs is in an equestrian subject, "Youth," by the veteran Academician, Briton Riviere, This represents a young man with a Falcon on his hand. The bird looks as if it had been painted from life, which cannot always be said of birds in Academy pictures. The pose of the bird is just that which it assumes before taking wing, and the grip of the feet has a very realistic look, and much of the expression of life in it. I rather regretted that more study had not been spent on the wings, as they are a little out of keeping with the rest of the picture.

Peter Graham's picture, "And there is never silence on that shore," (No. 56) is a characteristic example of this artist's work. Of all the academicians, he has painted more in the haunts of Seafowl than any of them. The picture is that of a headland such as might be found on the South-East coast of Scotland, where Gulls and other sea birds congregate and breed. The sea, and the ironbound coast, are rendered with the hand of a master. I once heard a well-known geologist, standing before a picture by Peter Graham, praise the faithful portrayal of the rocks, the nature of which he was able to identify from the picture. Of the birds, I, as an ornithologist, could not speak in such warm praise, since the drawing thereof leaves something to be desired, even though the colour and painting are good.

In Gallery No. II., No. 149 is a "Still Life" subject called "Birdekins from the Tropics." Aviarists who admire the metallic coloured plumage of tropical birds will appreciate the clever rendering of the colours of the Sun-birds and Humming-birds—though I have seen it better done at the Academy. As a painting, this is a rather clever work, and for its technical merits deserves the place given to it.

In No. 367, "Preparing for Work: Winter," by Claude Hayes, the Rooks introduced are poorly drawn and in colour they look almost like blue birds, but they are not so bad as many one sees in pictures by figure or landscape painters.

In No. 373 the Gulls are well in keeping with the landscape, but rather too small to criticise from the ornithological point of view. Of No. 380 much the same may be said.

The other bird picture by Peter Graham (No. 495), "Lonely Sea Cliffs where the Gannet finds a Home," is as characteristic of his work as the first one. The same elements show—the well painted rocks, sea, and atmospheric effects, and the poorly drawn birds. Considering how easy it is to obtain good photographs of Gannets in their native haunts, I cannot help regretting that the artist has not spent a little more time on the study of the birds themselves, as he would then have remedied the one defect in his picture. The colour in this work, even in the birds, is good.

The picture by the distinguished horse-painter, John Charlton, "Abandoned" (No. 499) has some Grey or Hooded Crows in it, and in this case, as in so many others, the general idea of movement is well carried out, but the drawing and want of finish of the birds are out of keeping with the rest of the picture.

A Rook appears in J. W. Waterhouse's "Boreas" No. 618), fairly well drawn (though so rough in "treatment"), and having all the appearance of this familiar bird as it sails in flight.

No. 673 is an example of what one so often sees in such pictures as contain birds. Carefully drawn flowers or foliage and accessories, and a wretchedly drawn bird. Doubtless this bird was drawn from the remains of a Bee-Eater. What, I wonder, would be thought by an aviarist, whose bird, probably the gem of his collection, as far as rarity went, presented such an appearance?

A picture on which much time has been spent is No. 781, "Magpies" by Catherine H. Greig. There is no "mass" or grouping in the picture; it is an intricate study of bare branches and three Magpies. The birds are carefully drawn, but from what? My own conclusion is—from stuffed specimens, for I never saw living Magpies like them, and hope I never may. Justice is not done in this case to the metallic lustre, the colour being poor.

The Ravens in No. 847, by J. C. Dollman, "Famine," are good in sheen and lustre, but weak in drawing.

All the foregoing are oil paintings, and in the Water Colour Room will be found other pictures of birds. The Peacock in Harry Dixon's "Orpheus" (No. 912) is very poor– not what might be expected from an animal painter.

A picture of Grouse by Henry Stannard (No. 946) "A Hielan Clan" is a carefully drawn moorland scene with some very weak Grouse in it. If the Grouse are like this in life, I don't wonder that they get disease. The colour is not bad, though I cannot say that it is actually good. However, we may be glad the accessories are well studied, as that does not generally occur in the work of the natural history "artists."

No. 952, another Magpie picture, is very like No. 781, the birds looking as if they had been drawn from stuffed specimens.

There are two paintings of Cockatoos in this room (Nos. 992 and 998) both by the same artist, and both hung in the best positions. For most of the bird pictures of the Academy one can say something—generally that the "Action" is well studied, or that, though dead, the birds are well painted—but I have looked carefully at these two paintings and cannot see anything in them which makes them them worthy of their position.

Post Mortem Reports.

(*Vide Rules*).

CANARY. (Mr. Lloyd). Pneumonia.

CANARY. (Mr. Halliday). This bird was destroyed without examination. "*Vide Rules*" is at the head of each month's report.

BENGALI, cock. (Miss Brooksbank). Septic enteritis and pneumonia were present.

ALARIO, hen. (Mr. Fillmer). This bird, imported about five weeks previously and kept in a cage, had congestion of the liver of some standing and a recent pneumonia. The green food was quite correct. My own pair of Cape Canaries (part of the same consignment) were turned into the open air as soon as Mr. Fillmer kindly gave them to me. They have remained quite well.

CANARY. (Mrs. Mortimer). Acute pneumonia was the immediate cause of death. In addition to this the oviduct was much inflamed, and the ovary was therefore in a quiescent condition. The feeding was correct.

Pied Wagtail. (Mr. Fillmer). This bird was rather decomposed by the time I had leisure to examine it, but I was able to make out that it had pneumonia in one lung.

Canary. (Mrs. Mortimer). Egg binding. A fully-formed egg—but broken—was in the oviduct.

Redpoll. (Mr. Fillmer). There was a good deal of jaundice present, owing to obstruction of the biliary duct and consequent absorption of bile by the blood. The liver was in parts congested and in parts undergoing fatty degeneration. But the immediate cause of death was pneumonia.

Blue Robin. (Rev. R. H. Wilmot). This bird died of acute septicæmia. The liver was deeply congested and the spleen much enlarged. Both organs were densely infiltrated with nodules of what is so often erroneously called tuberculosis. The bird was plump and well nourished, showing that the disease was of recent origin and rapid in its course. Under the particular circumstances detailed I should recommend a re-perusal of the "Story of Bird-Death" from the beginning. Read as a whole the argument cannot fail to convince, even if reading it by scattered instalments fails to do so. The statement that the food given is "not sufficiently capable of assimilation without egg" is not in accordance with known physiological laws.

Goldfinch. (Mr. Bramley). Fatty degeneration of the liver was here the cause of death.

Canary. (Dr. Geo. Master). There was an extensive patch of pneumonia in the right lung: the left one was also slightly invaded.

Alario. (Mr. Fillmer). The cause of death in the case of this male bird was the same as that of the hen mentioned above. It does indeed seem strange that the Alario finches should be the only individuals of the consignment to go off. Dr. Butler draws the conclusion from the few he has kept that they are long livers. The fact is that, as with other freshly caught birds, the many die while only the fittest individuals survive under their new conditions of environment.

Canary, Roller cock. (Mrs. McAdam). In this bird there was advanced fatty degeneration of the liver, complicated with pneumonia, which latter was the immediate cause of death. Such cases as these are instructive, shewing as they do how a weakly condition, induced by the presence of a chronic disease, favours the invasion of a microbic one.

PEREGRINE FALCON. (Mr. E. Beech). There was a large abscess of the palatal region of the head. If this had been syringed out daily with a saturated solution of boric acid it would have healed. As it was the cavity contained eggs of the blow fly and was in a horribly septic condition, giving rise to death from sapræmia, or intoxication of the system with poison derived from the pyogenic cocci of the abscess. This condition, although allied to it, is not quite the same thing as septicæmia.

BULLFINCH. (Mr. Harman). Septicæmia was the cause of death.

CANARY, hen. (Mrs. McAdam). Fatty degeneration of the liver was the cause of death.

BUDGERIGAR. (Rev. R. H. Wilmot). This bird had extensive pneumonia in both lungs. This has been very prevalent this spring. I should recommend that the rest be turned out into an open air aviary.

COCKATEEL. (Mr. H. Ide). Catarrhal pneumonia of the left lung caused death.

Pair of GREEN SINGING FINCHES. (Mr. Fillmer). History: In owner's possession about 2½ years and in previous owner's a considerable time before that. The cock being dangerous to other birds, they were kept in a cage. For some time past the cock has had some amount of paralysis and has tumbled about. Lately the hen has developed something like the same symptoms and the owner very naturally suspected an infectious character to the disease. They were sent to me alive. *Cock* :—He sat on his heels on the floor of the cage and was unable to extend the hind toe. He constantly turned his head about in the manner seen in a "giddy" sheep, was quite unable to fly or to jump on to a perch two inches above the floor, and occasionally had a violent epileptic fit. One evening after an unusually severe one he died. On examination :—The brain was slightly congested and there were one or two punctate hæmorrhages on the surface. The bird was well nourished and the internal abdominal organs appeared healthy, with the exception of the testes. The right one was atrophied, and the left was the seat of extensive and advanced cystic disease. The cysts were multiple; one was enormous, relatively to the size of the bird, being as large as a small pea, while the other three were about as large as a millet seed. All of them were full of pultaceous matter. *Hen*:—In this case there was partial paralysis but no epilepsy. After being killed with chloroform she also was found to be well nourished. Over the right ear there was a circular patch of bone, nearly a quarter of an inch in diameter, quite bare of skin and shewing some thickening. On separating the skin from the edge the whole of the integuments covering the crown and occipital region were found to be separated from the skull by a layer of effused blood undergoing disintegration. The brain was congested. The internal organs were healthy. This condition evidently resulted from an injury in the first place.

GOULDIAN FINCH. (Mrs. Gorter). A typical case of septic disease in a newly imported bird, the abdominal organs and lungs being affected alike.

W. GEO. CRESWELL.

Short Notes, and Letters to the Editor.

EGG FOOD FOR NESTLINGS.

SIR,—An esteemed and valued correspondent of mine, (a member of the F. B. C.), writes me that while he has never lost one old bird out of the great many he keeps since giving up egg food nearly a year ago, (whereas to my knowledge his previous losses had not been inconsiderable), he has not succeeded so far in rearing any youngsters on a diet of seeds, green stuff and breadcrumbs. He says that with four nests, which he has tried the diet on, the young have thrived well for about a week but that after that they went back and did not feather properly, dying at from 10 to 14 days. He says that he is driven therefore to the conclusion that the purely seed diet is not sufficiently nourishing for the young birds, and goes on to ask me for my own experience and that of my friends. Since the question and its answer are of public interest I therefore address you.

The year before last I had very good luck generally, rearing a good many birds from a few hens only.

Last year with my five breeding Canary hens the majority of the eggs were unfertile. When any eggs hatched four out of the five hens simply never fed at all and the young invariably perished within a few hours of their birth. In all cases I found them quite empty. Now this cannot be laid to the grounds of no-egg, because it is common knowledge among all breeders that egg is not necessary for the first few hours.

On the contrary the fifth hen reared to maturity, with only fitful help from her mate (Siskin), *every young one she hatched with nothing but ordinary seeds, bread and green stuff.* She is only a little hen herself, but you, Sir, doubtlessly remember how struck you were with the colour, style, and particularly the large size of one of her sons which you saw in my dining-room on your visit in the winter.

This year, I have so far had only two nests of young, and with them I have had the same luck as my correspondent. About the 14th day they were allowed to die. Being differently situated from my friend with regard to facilities for watching the behaviour of my birds I am able to give a different reason to the one he surmises. In both cases the young on reaching their second week asked time after time to be fed without success, finally becoming too weak to raise their heads and dying at last literally of starvation and emptiness. The fool mothers brooded them assiduously, but would not feed or even attempt to do so. These birds are two of those who shewed their idiocy last year in not feeding at all.

Mr. Dart has given no egg food for three or four years to any of his birds. He has always been a remarkably successful breeder of many species, including Canaries, although he keeps large numbers together. Last year however he had the same experience I had. Out of four Canary hens, three refused to feed at all, the fourth reared all she hatched. This year the three are repeating their old tactics; the other has young ones shifting for themselves.

It would seem unwarranted therefore for my friend to come to the conclusion he has arrived at. The diet he gives *is* sufficiently nutritious *when properly supplied by attentive parents.* On careful watching he will find the cause of his deaths to be unconnected with the quality of the food. As an instance let us recall a p. m. report on some birds last month.

The first nest had died without egg, therefore with the next nest the owner gave egg, evidently fearing that the *post hoc* was necessarily the *propter hoc*. But this next nest perished also! So the cause of the trouble in this case must be looked for apart from the nature of the food.

In conclusion I would advise my correspondent to stiffen his back and not rush back in dire alarm to the beaten track because he hears a rustle in the bush. Even the eggists get bad seasons in a like respect.

W. GEO. CRESWELL.

P. S. Do the German country breeders, (who produce large numbers at less than sixpence each to the dealers) supply their birds with egg?

P. P. S. I am instituting a series of experiments *re* substitutes for egg, not that one is absolutely necessary from the purely physiological point of view, but for the benefit of those who prefer to give their birds some animal food. So far I find that ant eggs (dry) are most readily eaten by Canaries.

According to Mr. Rettich egg is used by the German breeders (*vide* "Profitable Canary Breeding as practised in Germany"), but the Germans induce their hens to feed their young on seed as well, by keeping them on rape seed as a staple and supplying canary and hemp only as a treat—under which conditions the birds are said to consider canary and hemp as delicacies, and feed their young therewith. The mixed seed is supplied two hours before sunset, and left in the cage for the early morning feed. Egg food is supplied during the day. Oats, in the form of "cut groats," are also given to breeding birds.

I feel sure that many hens, possibly the majority, will refuse to feed their young if supplied merely with their accustomed seed and green food. It is surely advisable to supply in addition either sponge cake, crushed sweet biscuit, *colifichet*, or some other tasty stuff such as that useful V.S.N. Food which used to be made by the late Mr. Elfick.

I have abandoned the use of egg, but am not converted to the strictly "seed and green food" system. It is not simply a question of what is *best* for the young, but what the parents can be induced to feed them with.

HORATIO R. FILLMER.

SAFFRON FINCH HYBRIDS.

SIR,—In the May number of "Bird Notes" a correspondent asks for advice as to the best way to obtain a cross between a Saffron Finch and a Canary.

I do not think it impossible to obtain such a hybrid, but believe it very unlikely, for the simple reason that the Saffron Finch is a Brazilian bird and as such his breeding season commences in the Brazilian Spring, *i.e.* our Autumn. Saffron Finches will be in season when Canaries are out of season. In my aviary Saffron Finches hatched and reared their brood in December.

It might be that a cock Saffron Finch could be found to mate with a Canary hen, but it is almost certain that his moulting time would interfere with the success of the brood. I have had the pleasure of seeing Saffron Finches in their native country, where they love to perch on fences, and look very pretty when flying about.

Another question is, what would be the use of such a hybrid—which could only be produced by a mere chance after much trouble and disappointment? Its plumage would scarcely be distinguishable from that of a Canary. But that raises the whole question of hybrid breeding, with which I never had much sympathy. I never yet saw a hybrid which I liked so well as either of its progenitors. Unless the hybrids are the offspring of nearly-related species, there is little chance of their being reproductive. To produce a new species seems to out of the question.

Some of your readers may remember the Crystal Palace Bird Show some 25 years ago at which the late Dr. Russ of Berlin exhibited some very extraordinary hybrids. Among these a cross between a Diamond Sparrow and a Zebra Finch was, I think, the rarest I have ever seen. But a good specimen of either of the parents would have pleased me better than this curiosity.

Australian birds seem to me to adapt their breeding time, in captivity, somewhat more readily to our European conditions than South American and African finches do as a rule. Do the observations of more recent breeders of foreign cage birds confirm this?

AUG. F. WIENER.

THE ZOOLOGICAL SOCIETY AND PATHOLOGY.

The following extract from the Report of the Council of the Zoological Society of London is of special interest to the members of our Club. We would direct the particular attention of our readers to the concluding portion of the last sentence, (which we have printed in italics), since we have for some time been able to avail ourselves of what the Zoological Society deems of so much importance.—Ed.

"A Special Committee was appointed consisting of Prof. "G. B. Howes (Vice-President), Dr. H. Woodward (Vice-"President), Dr. Chalmers Mitchell, and the Secretary, to "represent the Council, and Dr. Arthur Keith (Lecturer on "Anatomy at the London Hospital Medical College), Mr. F. G. "Parsons (Lecturer on Anatomy at St. George's Hospital "Medical School), and Dr. R. N. Salaman (Director of the "Pathological Institute at the London Hospital). After a "series of meetings this Committee presented an elaborate "report to the Council, upon which, Council adopted the "following resolutions:

"(1) That a Veterinary Surgeon be not appointed.

"(2) That a Pathologist be appointed to the staff of the "Prosectorium at a remuneration of £100 per annum.

"The Committee and Council gave anxious consideration "to the question of the permanent employment of a Veterinary "Surgeon attached to the Prosectorium, and took advice from "various sources on the subject. It was decided that in those "cases where a Veterinary Surgeon would be of value he could "be called in at the Superintendent's discretion, but that in a "majority of cases wild animals do not lend themselves for "treatment, *and that it would be more in the interests of the "animals to make provision for a trained Pathologist, whose "duty should be to study the causes of death, not only by "ordinary post-mortem examination, but by the use of the "microscope and bacteriological methods, and to point out "not only the cause of death but also how such deaths might "in future be avoided.*"

INSECTILE BIRD FOOD.

Sir,—Can any of your readers inform we where I can obtain the dried pupæ of the silkworm moth? I have written twice lately to a source where I know it has been possible to purchase this article of bird food, but have received no answer whatever.

I am anxious to use these pupæ for my insectivorous birds: in addition, I am also desirous of including them in some chemical analyses which I am undertaking with a view to establishing some reliable comparisons between different articles of bird food.

If, therefore, any of my fellow members will at their early convenience supply me with the information I require I shall be greatly obliged to them, and shall hope to be able to afford later on some interesting particulars of public importance in return.

W. GEO. CRESWELL.

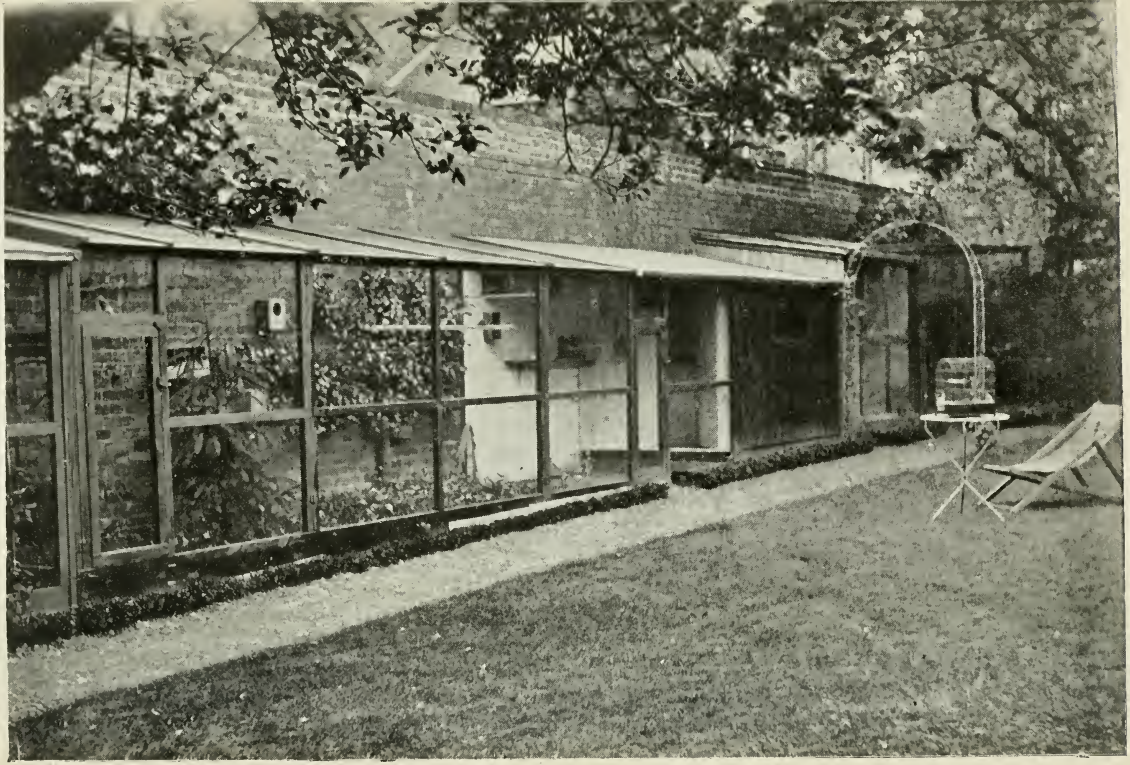
THE SOUTH AFRICAN SISKIN OR TOTTA FINCH.

Chrysomitris totta.

This delightful little bird is very seldom imported. They appear never to have had it at the Zoo. It is mentioned in one of Dr. Greene's books, but not, I think, in any of the other popular English works on Foreign Cage Birds. The male is decidedly pretty, though somewhat dull in colour, the upper parts are olive-green, the under parts yellow; the primaries are tipped with white. The female is much duller. The chief attractions of the species are its pretty song and sprightly demeanour.

A pair was sent to me with a consignment of other birds from S. Africa which arrived about the end of March last. Unfortunately the hen died on the voyage—the only bird, out of twenty despatched, which failed to arrive. The cock was in fine condition, and I turned him out-of-doors on the 1st of May. For some weeks he delighted me with his song, and then met an untimely fate. Several of the birds in the aviary were badly scared one night, probably by mice, and knocked their heads about against the wire netting. The Totta Finch was the worst, and the only one fatally injured—he died two or three days afterwards.

H. R. FILLMER.



SOME AVIARIES AT EDEN LODGE, KINGSTON-ON-THAMES.

To face page

Notes on Housing and Hygiene.

By W. Geo. Creswell, M.D. Durh., L.R.C.P., F.Z.S.

(*Continued from page* 56).

In the case of our birds these essentials are best found in roomy and open outdoor aviaries. In such dwellings sufficient exercise can be taken to keep the circulation active, and to prevent the deposition of inordinate fat, since the birds are enabled to find other amusements and interests than merely to crack seed and gorge it. Therefore they only eat as much as they require, and they digest it afterwards. The more wind that plays around their abode the more oxygen they get; and the more open the aviary, the more access there is for the sun's rays, and the less creation of draughts. No fear need be entertained of the evil effects of mere uncomplicated cold, that is *as* cold: all birds and all other warm-blooded animals who naturally live in the open have an arrangement of minute muscles whereby at will their feathers and fur can be instantly made into either an indifferently good or else a very bad conductor of heat. When the covering is pressed tightly to the body there is but little air contained in it, and it is then at its best as a heat conductor; but when it is elevated and loose, the greater amount of air, which is as it were entangled in it and so rendered quiescent, makes it less of a conductor and therefore a more effective preserver of the natural heat of the body.

And this natural heat is much greater in feathered than even in furry animals. The great rapidity of breathing, the enormous area over which the inspired air is spread by the agency of the air sacs, (for in spite of the paucity of bloodvessels in those organs this counts for something), and the almost continuous character of the ingestion of food in what in our own case would be of exceedingly abnormal relative proportion to the size of the body, all tend to produce an amount of tissue oxidation and of metabolism far in excess of that present in ourselves, resulting as we see in a normal body temperature which in a man would in most cases be an almost certain harbinger of death.

I hope that what I have said—although I have by no means exhausted all that could be said on this subject—will shew bird keepers what can be done by them in the direction of housing their birds, not only with impunity but even with advantage. I advisedly say advantage, because there can be no doubt but that with better general health there also comes a greater number of fertile eggs, to be followed in turn by more vigorous offspring. Before I took to keeping my Canaries in the open the hens frequently suffered from egg binding: now that they live under more healthy and natural conditions they rarely do so. This is easily understood when one remembers that this trouble is practically never due to anatomical abnormalities, (and very seldom to any other mechanical obstruction), but that it is caused by circumstances dependent on some phase or other of bad health, or to say the least on want of hardiness or on some induced want of power to resist such influences as extreme cold.

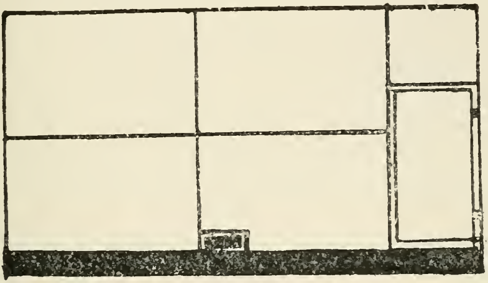
But in spite of all the advantages attaching to outdoor aviaries, breeding in them with hen Canaries is never quite an "exact science." Generations of domestication have so upset and altered their natural habits that one never precisely knows what in any given case is going to happen. Very often two of these eccentric ladies will build together in one basket or box—not that this would matter very much if they would but take turns in incubation, but unfortunately they always sit together, which results in the cup shape of the nest being destroyed, and of course leads to the rolling of the eggs to the outside edge and the consequent death of the embryons. Once I possessed a hen which, in spite of her being an excellent breeder, never managed to rear a single young one to maturity, owing to her habit of feeding them principally on mortar rather than on seed. Many times I have watched her make journey after journey from the nest to a bush nailed on the wall, get her load of lime from between the bricks, and then give it to her hungry youngsters; and yet the seed box was close to the bush, and (at that period of my avicultural life) there was always fresh egg food in the saucer. Three nests in one season did she attempt to bring up on these novel lines: then I constituted myself first coroner, and then judge, and in the second capacity sentenced her to transportation for the rest of her natural life as a punishment for her infanticidal crimes.

Polygyny among birds is well known; only occasionally is polyandry practised. It once happened that towards the end of the season for some reason or other I put a hen Canary into an empty aviary together with a couple of cocks, a Siskin and a Redpoll. She went through the routine of nesting and finally hatched two young birds, which turned out to be respectively the progeny of both males. The Siskin hybrid, unfortunately a hen, was one of the best in both colour and style that I have ever bred, although, as would be expected from its sex, there was no sign of a cap. The other bird was just a Redpoll over again—a little larger than its sire, but a perfect copy of him in all respects except of course as to colour of poll and breast.

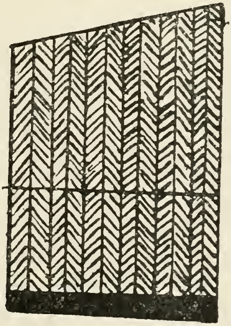
In my experience Siskins have generally proved very attentive to hen Canaries, feeding them when on the nest with great regularity; one cock that I bred from for four years and which was particularly attractive and tame, was also a good feeder of his young. I often wonder why these birds are not more popular with mule breeders, since in addition to their own docility and confiding little ways their hybrids with the Canary are really great as songsters, as well as decidedly good to look at. I had one for some years which I had trained as a youngster under a Green Singing Finch, and a more charming and indefatigable singer could not be imagined. The somewhat disconnected phrasing of the tutor he reproduced in a more connected form, adding to it a portion of the song of the St. Helena Seedeater, one of which species had also been kept in the same room for a time. The effect of these combined songs was particularly pleasing, the more so as it was quite different from anything obtainable from either Canaries or any of our own native songsters. Apart from the beauty of their tones and phrases, one great advantage accruing from the use of these South African Serins as schoolmasters is that, until they are completely acclimatized, they moult in February and March, and so are in full song all through the autumn just when we most require their help as instructors.

Before I close this chapter it may perhaps be interesting if a few particulars are given about my aviaries. Their construction is simplicity itself, and is such as can readily be undertaken by anyone who has the most elementary knowledge of carpentering. Having selected a site under a wall with a south or south-west aspect, I first of all have the soil well trodden down and levelled with the aid of a spirit level. If it can then be left alone for a week or so exposed to the rain, I find it all the better, because by this means it becomes set and hard.

The accompanying diagram represents the front and end of an aviary 10 ft. long by 6 ft. high at the front, and 4 ft. 6 in. deep: each of the walls and the roof are made separately, so that when finished they only want a few screws to fasten them together in their proper places. The framework is composed of slate battens, 2 in. by $\frac{3}{4}$ in., and care must be taken



FRONT,—WIRE NETTING.



END,—BOARDS.

that the horizontal bars be placed outside both the upright ones and the wire netting, so that the birds cannot roost on them and be within the reach of cats at night. The bottom rail (resting on the ground) is a length of floor-boarding, 7 in. wide by 1 in. thick. Wire-netting of ½ in. mesh is tightly strained over all but the doorway, being fastened down by small wire staples to the back of the floor-board and horizontal bars and to the front of the uprights, which are next doubled in thickness by nailing lengths on the front surface, thus making them both neater and stronger. The door having then been made in like manner and fixed in the doorway by a couple of butt hinges, the whole is ready for painting. The bottom board, or at any rate its lower edge, should have two or three coats of gas tar with a little paraffin in it and applied hot: the rest should be primed with a coat of good lead colour, followed by two more of dark Brunswick green. In giving the final coat it is advisable to include the wire netting, not only because it will preservethe wire from the effects of weather, but also because the darkening of it shews up the birds and prevents one's eyesight from being dazzled and confused. A common window-sash fastener makes the neatest and handiest combination of door handle and latch. If it is considered advisable to close in one or both ends, that can be best done with ½ in. or ¾ in. match boarding. Care must be taken not to let the ends of the boards be quite flush with the lower edge of the floor-board or bottom rail ; if they are an inch short of this it will be all the better, since as the structure will stand *on* the ground, it will be as well not to let the cross section of the grain be in contact with it. In a boarded-in end the middle horizontal rail may be on the inside ; indeed this is desirable, since it may be utilized as a support for a shelf, etc.

The roof is constructed in the same way as a boarded end. Three longitudinal rails of slate batten carry match boarding nailed across them, the topmost one being flush with the ends of the boards and the bottom one being five or six inches from the other extremities. This provides for a good and efficient overhanging eaves. To make it watertight most people would consider the old-fashioned tar felting sufficient, but the neatest and most durable covering consists of sailcloth, or even ordinary Hessian cloth, stretched over it and tacked down to the outside edges of the boards, not forgetting to allow about an inch to hang free at the front and ends, so as to prevent the wet from running back under it. Then if this has a good coat of gas tar in which a little pitch has been melted, it will be found to last for years, that is if a fresh coat of tar is put on every year or two. As an alternative to this the lately introduced flexible tar felting, which is said not to require tarring, may be used. I have used both, and prefer the sailcloth.

If the walls of the aviary be now placed in position on the levelled and hardened piece of ground and screwed together, the roof can then be lifted up into its place. Provided that the measurements have been correct, the top horizontal rail will be in close contact with the wall, and the bottom one will be resting on the top edge of the front of the pen. A few small iron plates, or, better still, butt hinges, will make the joint between the roof and the front all secure, while half-a-dozen three inch holdfasts, previously driven into the wall for the top rail of the roof to rest on, will give perfect security, both vertical and lateral, when some screws have been put hard up through the holdfasts into the rail.

Last of all, to prevent mice and rats from burrowing, slates must be sunk into the ground all round the aviary close up to and touching the floor board (bottom rail), allowing only about three inches of their width to be in sight. In addition to fulfilling the purpose above-mentioned these also keep the floor of the aviary dry, and allow the outside soil to be worked without any danger of that inside the aviary falling away and having its level disturbed.

To allow of the drinking and bathing water being changed without opening the door it is advisable to have a small hinged flap within a few inches of the floor and just large enough to allow of the passage of the drinking vessel and bath. This will be found to greatly minimize the chances of the birds' escaping if at any time a servant is deputed to look after these requirements of the inmates.

A coat of lime-wash inside, and the fixing of suitable perches, shelves, feeding hoppers, and nesting places, not forgetting a two inch layer of coarse washed river sand on the floor, completes the whole arrangement.

Such an aviary will, as a store pen, accommodate at a pinch from thirty to forty birds of the size of a Canary and under if it is kept perfectly clean, but as breeding quarters it should hold not more than five hens at the most, and even then there may be trouble.

If it is thought advisable to modify the above idea, say for instance through the proposed site being an exposed one, a chamber built entirely of wood, and having only a window opening and a door, can be easily built at one end for the birds to retire into if they will. Such an aviary is shown in the accompanying illustration. The closed in chamber (seen towards the right of the picture), is a little over 7 ft. long; then there is a portion, 6 ft. in length, open in front but covered in at the top; the remainder, 18 ft., is entirely composed of wirework, and can be differentiated from the remainder by the wall not being lime-washed. It contains a pear tree and a couple of spruce firs, and the floor is thickly sown with grass and other green stuff. In it I keep only about from thirty to fifty birds (insectivorous and seed-eating), with the result that the greenery is allowed to remain in very good condition and to be a fairly good covert for insect life.

One great advantage accruing to the provision of a closed in room is that those birds which retire to it at night are not so liable to be scared by the nocturnal prowling cat.

(To be continued).

Bird Notes from the Gambia.

By E. Hopkinson, M.A., M.B., D.S.O.

(*Continued from page* 78).

BABBLERS AND BULBULS (*Crateropodidæ*). I know at least two species of Babbler, which I have seen in various parts of the Protectorate, chiefly in the thicker bush, almost jungle, near the river: these two are, I think, *Crateropus platycercus* and *C. reinwardti*.

Of the Bulbuls, a plain brown one is by far the commonest, being one of the most frequently seen birds either in Bathurst or the bush. They find their food mainly among the wild fruit of the various trees, moving about in small parties, the members of which keep calling to each other with a clear whistling note, as they move erratically from tree to tree in search of one where the fruit is ripe. Whenever I have camped under such a tree, I have generally found a hundred or more of these birds collected on it, many wandering parties having united. Here they stay the whole day, coming back directly if driven away, and squabbling for the luscious morsels among themselves or with the numerous other birds attracted either by the same food, or by the insects which are also allured by the ripe fruit.

THRUSHES AND WARBLERS. Of these I can only speak in the most indefinite and general way. In Bathurst I once saw a Thrush, very like a rather dusty hen Blackbird in appearance, hopping about on the ground just as ours does at home when looking for worms, though I am afraid the very last thing this bird could have been hoping for was the discovery of a worm in the sandy patch of dry straggling grass which he was searching. I have also seen a similar but greyer bird at different places since, but have no idea to what species they belong. I am nearly sure that I once saw a Nightingale here (Jan. 1902), while Redstarts (I presume our bird) are not uncommon in the winter: I have often seen them at sufficiently close quarters to be certain of their identity. Another Thrush which is found in pairs in thin bush is a very noticeable bird, and must, I think, be *Cercotrichas podobe*; it is a reddish-winged bird with a grey head marked with horizontal black stripes. Wheatears (two kinds) and Whinchats (the latter very like or identical with our bird), are very common everywhere during the dry season, and as I have not yet been out here during the rains, my knowledge of bird-life of that season is as yet practically *nil*. Other Chats are also common, of which two are certainly noteworthy: they are two black Chats (? *Pentholæa albifrons* and *atrata*), which appear to be very local in their distribution, as I have only seen them on the North Bank, and there only near certain villages. In one species the nape is white, in the other the forehead, while in both the rest of the plumage is dead black.

Warblers again are present in great variety, especially in winter, when we are visited by many emigrants from Europe, such as the Whitethroat etc., but so many of them resemble each other so closely, and so retiring are they in their habits, that I really can hardly say I know one from the other. Among our resident Warblers are the Cisticolæ, true Grass-Warblers in every way, as they are hardly ever seen away from the long grass. They are all small brown birds, many of them tiny fan-tailed mites, and a few quite Wren-like in their looks and movements.

ZOSTEROPIDÆ. Of this family, members of which from other parts of the world have become in recent years such common cage-birds in England, we have one species in Gambia, the Senegal White-eye (*Z. senegalensis*), which is common throughout the country. One never comes across one of the wild fig-trees, of which the fruit is ripe, without finding a number of these birds there, hunting every branch and twig,—in action and movements resembling a Tit, or perhaps more exactly a Goldcrest,—not so much, I think, for the fruit, which attracts so many other birds, as the Barbets, Orioles etc., as for the small insects which swarm among the clusters of small green figs.

Of the SUNBIRDS we have about seven species, three of which are quite common: namely *Nectarinia pulchella*, *Cinnyris splendidus*, and *Chalcomitra senegalensis*. In Bathurst they frequent the gardens, while up-country they are usually seen in the trees and luxuriant vegetation near the river or the swamps. They flit or climb like Tits about the trees, especially those in flower, calling to each other continually with short sweet chirps. They begin to breed about May, and continue nesting, I think, all through the rains until October. One of the few nests containing eggs which I have found in this country was a Sunbird's, as I know for certain, for I saw the sitting bird several times leave her post. (*N. pulchella*, the Beautiful Sunbird, I think). The nest was suspended from the end of a branch of a thorn-tree, about six feet from the ground, and was made of fine grass ornamented outside with lichens, and lined within with fine hairs and plant-down ; in shape, spherical with an opening at one side. It contained two eggs, clear pinkish white with a few minute reddish spots at the larger end.

SWALLOWS are common here all the year round, though I suppose that many of those we see in the winter are only visitors. One of our resident species is commonly called in Bathurst the "Singing Swallow," and quite deserves the name for his sweet notes. It nests in the verandahs, making a mud nest like the English Swallow ; its main markings are black and white, its wings are rather blunt and tail not very long, thus contrasting markedly with the common Swallow of the Bush, which is a larger bird, blue-black above and red-brown below, with long wings and a deeply-forked tail. This bird also makes a mud nest, but fixes it usually to the thatch inside the native houses, while in the dry season, when not breeding, they usually roost in small parties on the highest branches of dead trees.

With the Swallows we finish the PASSERINE birds, and as a Swallow easily suggests a Swift, I cannot do better than commence my account of the Non-PASSERES with the Swifts.

SWIFTS. The Gambian bird exactly resembles the English Swift in appearance (at a distance) and in its elevated flight, and may indeed be the same species, but I expect that it is more probably the allied *C. affinis*, which extends throughout the whole of Tropical Africa and Southern Asia.

NIGHTJARS. A bird very similar to the European one, but rather smaller and lighter in colour (? *Caprimalgus inornatus*) is very common, and several of them are to be seen every evening gliding with rapid noiseless flight round trees and dwellings. They are particularly in evidence round bush-fires, or when a fire occurs and runs riot through the grass huts of a native town; a rich and bountiful harvest such a catastrophe affords to the Goatsuckers by night, and Bee-eaters, Rollers and other birds by day. At a town fire at night the ghostly forms of these birds gliding round and over the flames, catching the insects driven up by the advancing fire, add an additional touch of eeriness to what is always an exciting experience. Another representative of this family is the striking Pennant-winged Nightjar (*Macrodipteryx longipennis*), a large bird with one feather in each wing prolonged to form a bare shaft with a racket-shaped enlargement at its termination. Like the other Nightjars they are nocturnal in their habits, coming out at dusk either alone or in small parties. Their extraordinary wing formation gives them a characteristic and unmistakeable appearance when flying; when I first saw one of these birds on the wing, I began by thinking it an Owl being mobbed by two small birds, and even now whenever I see one the same thought comes first to my mind, so exactly do the two wing-racquets flickering up and down behind the flying bird resemble the movements of two excited Sparrows, trying to get in plenty of vicious and effective pecks at a fleeing and frightened foe. A third Nightjar, the Long-tailed Nightjar (*Scotornis*) is described as coming from the Gambia, but I have never yet had the luck to see one.

New Wine in Old Bottles.

IN the *Feathered World* of June 3, 1904, and following dates, these notes can be found:—

BRITISH AND FOREIGN BIRDS.

ANSWERED BY DR. BUTLER.

Thrushes with Indigestion (J. S.).—Why do you not look at "Answers to Queries?" Look at answer to "W. H." last week. Fits, coughing, sneezing and many other ailments are due to incorrect feeding. No food for Thrushes can be called really good unless it contains plenty of yolk of egg and ants' eggs; those who speak against yolk have never attempted to explain why it is only those birds which get most of it that are exempt from enteric fever, and those which get least of it are the very ones which die from that disease.

(June 10). **Enteric Fever in Birds.**—MADAM,—In last week's "Answers to Correspondents," Dr. Butler wishes to have it explained "why it is only those birds which get most of it (egg) that are exempt from enteric fever, and those which get least of it are the very ones which die from that disease."

This question requires no explanation, because enteric fever is as yet unknown in birds.

But septic enteritis, which is due to quite another bacillus than that which is responsible for enteric (*alias* typhoid) fever, attacks birds fed on egg more readily than those which get none, other conditions being equal.—W. GEO. CRESWELL.

(June 17). **Enteric Fever in Birds.**—MADAM,—I do not pretend (not being a medical man) to be able to distinguish between enteric fever and septic enteritis. As a rule, I believe, when bird-keepers speak of "enteric fever" they mean the disease which does attack birds, whether it be the offspring of a different bacillus from typhoid or not being to them of little interest.

Dr. Creswell asserts that septic enteritis "attacks birds fed on egg more readily than those which get none, other conditions being equal." I do not know exactly what he intends by the saving clause which concludes his statement; but I do know that my experience and that of other reliable aviculturists who have devoted many years to the study of bird life, have led us to an exactly opposite conclusion.

At various times I have lost seed-eaters from the disease, though I do not for a moment believe that egg had anything to do with it; in most cases they had certainly not eaten any.

Insectivorous birds unquestionably do better when there is plenty of egg in their food than when fed upon pea-meal, sattoo, or chenna. It does not follow, as a matter of course, that because such food suits them fairly well in India, or because banana alone may keep them alive in South America or the Moluccas, it will answer equally well in this country.

I suppose I have been as successful as anyone in keeping soft-food eaters, inasmuch as I have convinced myself that they are far easier to keep in health and live much longer than the finch-like birds. Now, all my soft-food eaters have yolk of egg daily, whereas my seed-eaters only have it when I consider it necessary for them. But I am forgetting that experience is of no account in Dr. Creswell's opinion, though, if not, his assertions can have no foundation in fact, but must be based upon theory only. Well, I cannot waste time in discussing the matter. Experience is good enough for most men.—A. G. BUTLER.

Such a choice example as the above furnishes, in the way of the higher criticism, is too good to be allowed to flutter out a fleeting day in the columns of the estimable newspaper in which it appeared. In the days to come, when aviculturists, and even canary fanciers, shall have learnt that the objects of their favourite pursuit are as amenable to natural laws as the rest of the great scheme of the animal world, it will be good for them to learn something of the merry times enjoyed by their ancestors, and to get a glimpse of the stupendous efforts made by the obstructives of those good old days in their attempts to counteract the teachings of those individuals, who so impertinently sought to upset the old wives' tales which had previously stood as the Gospel according to The Autocrats. It seems only right therefore to embalm the lucid production, and to enshrine it in the same casket as holds the wicked doctrines against which it is launched.

It is no part of the province of this paper to discuss the question of egg food for birds. Three medical men, (including Dr. Klein, whose reputation as a bacteriologist needs no advertisement), have each of them made a distinct statement that egg increases the virulence of certain septic bacilli which attack birds. For this statement, arrived at by independent observations and constructive experiment on the part of all three, they would appear to have their reasons. Those who are curious in the matter can consult their various writings. It might strike an ordinary person that such a statement, coming as it does from men of their profession, two of whom at least have had a very considerable "practical experience" of bird keeping, was at any rate worthy of some time and trouble spent in its rational consideration; and the same ordinary person might well be excused if he imagined that the reasons must have been strong to have compelled a statement on their part which so radically knocks the bottom out of those traditionary usages, which they themselves, like other people, had followed for years. It would however seem that the every day person would be quite wrong in such an opinion. Dr. Butler, (Doctor of Philosophy), steps in and effectually puts him right, and it is his valuable and timely contribution to medical science to which we now desire to pay a measure of critical attention.

The ordinary person to whom allusion has been made, with just his ordinary hum-drum common sense, would naturally jump to the conclusion that before attempting to dogmatize on the causation of a disease it is at least desirable to know what disease one is actually discussing. In the plentitude of his simple-mindedness, he would think it unfortunate on the part of a critic that he should betray such an ignorance of the very A of the alphabet as to fix on a disease, for his illustration, which up to the present would appear never to have been found in birds, and then to gravely assert that it is the presence or absence of egg in the food which determines the freedom or other wise from this disease. But such a paltry consideration is beneath the philosophy of Dr. Butler. Although he very properly snaps up his own querist with "Why do you not look at Answers to Queries?" he himself stands in no need of making himself conversant with elementary medicine before propounding his very definite ultimatum, couched in the shape of a conundrum on his own part, with regard to a disease—which does not exist!

And then the engaging ingenuousness he displays when told of the non-existence of this disease! How blandly he seeks to disarm us of any unkind thoughts, how frankly he throws himself as it were on our mercy by confessing that he is not a medical man and that he is therefore not able to distinguish one disease from another! But like the celebrated navvy who assured the Bishop of Manchester that there had been no necessity for him to *learn* how to swear, he cannot even now hide his Heaven born gift, for he goes on to say that anyhow it is "the" disease which does attack cage birds. At this point the aforesaid stupid ordinary person is heard to murmur gently, "*The* disease? which disease? I thought there were several which attacked birds. Surely there must be some mistake here!" But here again this ordinary person is wrong. Dr. Butler is independent of such trifles. He sees no difference between typhoid and septicæmia, and therefore concludes there is none. Either of them, or both of them, or for that matter one which is neither of them, is "the" disease. Indeed so certain is Dr. Butler on this point that we learn later on that in spite of not being able—by his own confession—to recognise one disease from another, he is quite able to assure us that at various times he has lost birds from "the" disease. What a simple matter after all it must be to him to instruct us on the properties of egg food! But then it is not given to all of us to be able to take such a pinnacle of ignorance as a standpoint from which to instruct one's fellows. In most matters some degree of knowledge is usually demanded. For instance, it would be generally considered necessary before attempting to classify a butterfly that one should at least be able to differentiate it from a mealworm. In the science of medicine it is apparently quite different.

The same faculty of lofty contempt for ordinary knowledge follows Dr. Butler even into the realms of English composition. He professes to be ignorant of the meaning of "other things being equal": in fact he violently shies at it, and seems to think that by its use some attempt was being made to perform the operation popularly known as leg pulling. But perhaps this is only a mixture of modesty and humour on Dr. Butler's part, because our ordinary man says that he is quite familiar with the phrase and has indeed often met with it, even in the purlieus of Logic and Latinity.

The last two paragraphs in Dr. Butler's letter betray a wealth of imagination which ought to put our ordinary person to shame when he reflects on his own deficiencies in that respect. As a matter of fact a diet of "pea-meal, sattoo, or chenna" does *not* suit insectivorous birds either in Asia or anywhere else. That which we have seen stated to be used in the East is some such form of vegetable food *plus some form of insect*, a very different thing to be sure. We cannot however expect everything. Dr. Butler cannot always be floating in the sublime and ethereal regions of superhuman ability to lay down laws on subjects of which by his own confession he is in complete ignorance, and so it is quite a relief to find that he can descend—as occasion demands—to the more mundane expedient of what we may politely designate as the art of carelessly picking one's words.

And now we come to "experience" (or perhaps it should be EXPERIENCE). It is only with an acute sense of our own unworthiness that we approach this subject at all. Dr. Butler, by virtue of his philosophical studies, is evidently so profound and erudite a scholar in this direction that we feel very loth to suggest that the name—like many other abstract nouns in our poor language—has more than one meaning, and that these meanings vary according to the comparative attainments of the persons who for the moment are using the term. Yet we venture—still keeping our own unworthiness strictly in view, and therefore refraining from intruding our own opinions—to quote the words of Dr. W. H. Dickinson. They well sum up the man who delights in calling himself a practical man of experience, the man who cannot realize that, *to be of any use at all, experience must be combined with preliminary knowledge.* The words occur in the course of a justly celebrated address to medical men and students, and are as follows :—

" Some conservative spirits who arrogate to " themselves a title which we all hope in its widest " sense to deserve—that of practical men—pretend to " be superior to all theory, to despise recent investi- " gations of almost every kind, and to take observa- " tion as their only guide. Observation is indeed an " excellent teacher, but 'practical men' do not appear " to observe with greater accuracy or wider scope than " their fellows; their distinction lies rather in this, " that for want of better guidance they are more " largely the creatures of tradition. Theory is an " idea of purpose inseparable from human action ; " practical men are no less influenced by it than their " fellows, not indeed by the rational principles of " ripening knowledge but by the exploded fallacies of " the past. To them I would commend a saying, " which having come from a former great leader of " Conservatives may be entitled to their respect,—'A "practical man is a man who practises the errors of "his predecessors.'"

To the above may be fittingly appended the words of another medical man, also once a teacher of medical youth :—" The man who thinks and knows "first, and then acts in accordance with that knowledge, "is the true practical man. The man who thinks and "knows, but does not act, is the theoretical man. The "man who does not think and does not know is a "harmless nonentity if he does not act, and a mis-"chievous meddler if he does. He is the apostle of "ignorance, and if he attempts to lead, he is a blind "leader of the blind."

The Common Firefinch.

(*Lagonosticta minima*).

A translation from Dr. KARL RUSS'S "Die fremdländischen Stubenvögel."

By E. HOPKINSON, M.A., M.B., D.S.O.

With notes.

(*Continued from page* 60).

THE Firefinch is a favourite with everybody, and when once acclimatised will live many years in beautiful condition; an amiable inmate of the bird-room or cage, though to be sure it will quarrel at the breeding season with its near allies, the Common and Green Avadavats, the Golden-breasted Waxbill, etc.: but such quarrels, though often fierce, rarely cause any serious harm. In my bird-room many pairs of all these species have nested at the same time, without ever doing each other any real damage, and old and young of different broods all live together in perfect amity, a delightful family party. Dr. Luchs extols the amiability of these birds as follows:—" Among a number of different Wax-"bills in a cage together, it is by far the quietest and "most gentle; when the little company with eager "haste flock to the morning's fresh supply of food, to "quarrel over the seed scattered on the sanded floor, "this unassuming little bird always gives way to the "others, and never struggles for the best place here "or at the water-pan; again his roosting place is "invariably one which the others will not take, for "when the company begin to prepare themselves for "the night by arranging themselves in a close-packed "row along one of the perches, it is always the fate of "this patient bird to be the end one, as whenever "another finds himself here, he will at once hop on to "the backs of the others, and push himself in amongst "them with the greatest impudence:—a pretty sight "this many-coloured row, especially if this carmine "coloured mite, a Green Avadavat and a Cordon Bleu "happen to be neighbours, but however long the "line, the outer colour never varies, it is always the "red of our forbearing little friend. He can hardly be "said to possess an actual song, this being represented "by a tinkling di-syllabic note frequently repeated."

Dealers consider this bird one of the most delicate of the small foreigners, and they are certainly right, as it is always very likely to succumb within a short time after arrival, if subjected to unfavourable environment or influences, as draughts, cold, raw and damp weather, etc. Another cause of the great mortality soon after importation among the commonly imported foreigners (such as Firefinches, Cordons, and Lavenders), is the change of diet, white millet replacing the Senegal millet on which they have so far been fed; and in addition there is also the difference in the character of their drinking water, while the many frights to which they are subjected by frequent handling and catching must also be injurious. To minimise this loss, freshly imported birds should be kept in roomy cages, or better still, allowed to fly loose in a small room, furnished with brushwood, shrubs, and cosy nest-boxes, where they must be kept scrupulously clean, and fed on the best white millet, with Senegal or spray millet in addition when obtainable; other important points are, that plenty of dry sand should be provided, as well as cuttlefish-bone or lime in another form. It must also be remembered that danger may arise from other causes than those mentioned above, for instance from drinking ice-cold water or eating unwholesome green food. Moreover it is a singular, but none the less a regrettable phenomenon, that frequently the handsomest and healthiest of acclimatized Firefinches die suddenly when caught up from the bird-room and confined in a cage: whether this is due to fright or to an invincible love of liberty, who can say! but it shows what care they require.

(*a*) The retail price of these birds varies between 3 & 4 thalers (9/- & 12/-), but at the wholesale dealers they are sold at from 4 to 6 francs a pair (3/6 to 5/-). It is always risky to buy these birds when very rough or bare, and in any case the amateur must bear in mind the general instructions I have given in the chapter on bird-buying, as well as other details which will be found in my account of the Grey Waxbill.

(A list of the various names which have been given to this bird here follows; its usual German name appears to be, "der Amarant.") (*b*)

(*a*) Prices in England usually vary from 3/- a pair for newly imported specimens (a most risky speculation as Dr. Russ remarks), to 10/- or more for "acclimatised" birds.

(*b*) English names. The earliest are "Firebird" (Brown), and "Senegal Finch" (Latham), both of which are still in occasional use as popular names, but the name "Firefinch" is by far the most commonly used, though more rarely one sees them advertised under the ugly name of "Bloodfinch," or the French one, "*Senegali*." The term "Ruddy Waxbill" is a book name for any species of *Lagonosticta*.

Detailed description :—

Adult Male : Head, neck, rump, upper tail coverts and whole of breast bright crimson red, sides of body marked with small white spots ; mantle and shoulders brown, washed with crimson (each feather having a crimson end) ; wings and wing-coverts dark brown with a dull red outer web to each feather ; tail, above dark-brown, each feather with a red outer web ; under-wing-coverts, abdomen and under tail-coverts pale brown, under surface of tail brownish black. Bill red, culmen and edge black ; iris dark-brown ; naked ring round eye yellow ; feet reddish flesh-colour. Length, 3.5 in. (minima), 3.75. in. (senegala), (*c*).

Female : Brown under surface and sides paler ; a few white spots on sides of breast ; wing and tail feathers brownish-black, the bases of the latter having the outer webs crimson ; under tail-coverts dirty white ; lores, eyebrow, rump and upper tail-coverts red. Bill, eye-ring, &c., as in cock. (For description of young, see p. 59).

The white spots are sometimes entirely wanting, and the red colour often varies a good deal in tint in different individuals, and sometimes spreads over the whole mantle and on to the wing-coverts, while on the other hand the whole upper surface is olive-brownish (*d*). As I have from a pair of unspotted parents bred many spotted young as well as some of deeper colour, I feel sure that the occurrence of these spots and also the varying shades of colour, depend chiefly on the age, environment and food-supply of each individual ; and similarly I think that the allied species or local race, which Heuglin has

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(*c*) Length from B. M. Catalogue.

(*d*) = *L. brunneiceps.*

named *E. laterita*, must also be regarded as a mere variation from the normal type (*e*).

Egg: Chalky white, with but little gloss; surface rough; in shape, a rather obtuse ovate; length ·59 in., breadth, ·45 in.

Post Mortem Reports.

(*Vide Rules*).

HAWFINCH, hen. (Dr. Geo. Master). There was a ruptured ovum lying just outside and below the internal mouth of the oviduct. Another, in an equally advanced stage of development, was about engaging the orifice. There was a considerable amount of circumjacent inflammation.

CANARY, hen. (Mrs. McAdam). This bird, which had been unwell ever since its purchase last September, was sent to me alive, since it neither built nor paired. After keeping it a few days I killed it with chloroform. It had chronic congestion of the liver and intestines, and had been much overfed for it to have got into this condition. So called "building up" often means pulling down.

CANARY, cock. (Mrs. McAdam) The syrinx (voice organ) and the thoracic air sacs were inflamed and contained an extensive deposit of thick, creamy, purulent fluid, which on examination was seen to consist largely of diplococci and tetrads. The condition was analogous to empyema or purulent pleurisy in humans. The feeding had nothing to do with the case.

HAWFINCH, cock. (Dr. Geo. Master), The convulsions were due to a general infection by septic organisms, in which the kidneys participated.

YELLOW WAGTAIL, cock. (W. Geo. Creswell). Sent from dealer, and died the next night. (A Thrush sent the same time had died within a few hours of delivery, and was promptly returned). The cause of death was septicæmia. Both these birds were very emaciated, so the dealer ought to have known that they were not well.

(*e*) Heuglin's *E. laterita* is in the Catalogue of the British Museum considered a synonym of *L. rufopicta.*

Nestling Grouse. (Mr. Pycraft). These birds died of septicæmia, popularly known as "grouse disease." Both the respiratory and alimentary organs contained the characteristic bacilli.

Canary, hen. (Mrs. McAdam). Egg binding.

Waxbill, cock. (Mr. Richard). Pneumonia (catarrhal) was the cause of death. It was possibly due to a sudden chill. The fact of its being kept in a winter garden, "always kept at the same temperature," would make the possibility into a probability. A bird kept in such a place would feel the draught, say from a door open for a couple of minutes or so, much more than one kept in even an ordinary room. A bird kept outside would feel a cold night much less.

Budgerigar, hen. (Mr. Chaplin). This hen died of pneumonia of both lungs. All the other organs were healthy. Inbreeding *of itself* is productive of nothing more than an increasing persistency of the inborn characteristics of the original stock, (more especially when rigid selection is practised), and *perhaps* intensification of these characters.

Vide article on Budgerigars by Dr. Hopkinson in *Bird Notes*, Vol. II. page 116.

W. Geo Creswell.

Short Notes, and Letters to the Editor.

EGG FOOD FOR NESTLINGS.

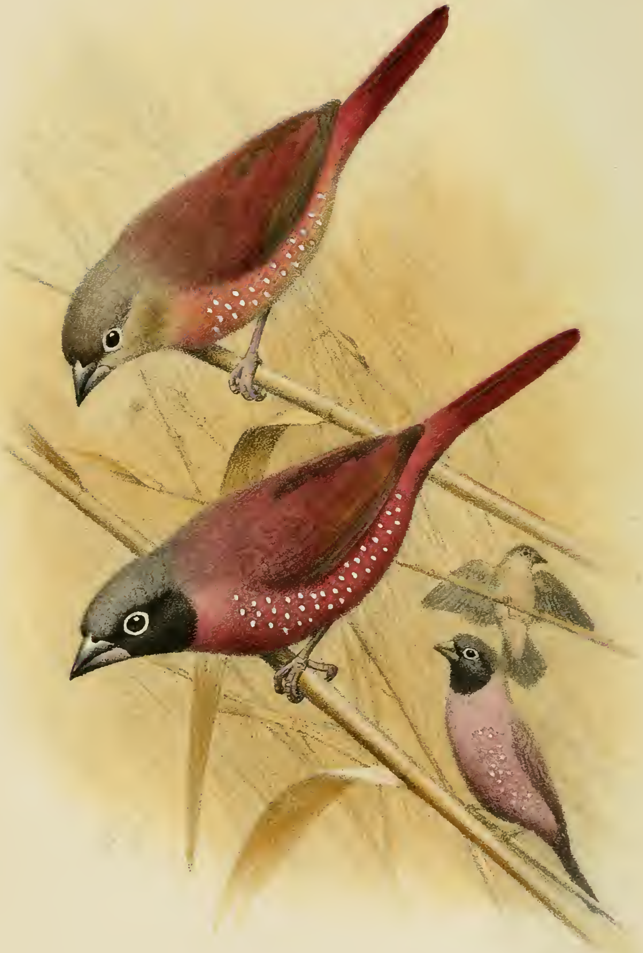
Sir,—Since writing last month on this subject the little yellow hen, of whom I then spoke, has repeated her last year's feat of bringing up her hatch to the perch on nothing but seeds and greenstuff.

Two of the other hens have also for the second time repeated their former behaviour. Between them they had nine young ones. Following your advice I gave them various delicacies, but in spite of everything the young were allowed to starve at the beginning of the second week. Finding that Mr. Dart had a young hen of last year's breeding with one chick in her first nest, I transferred two little ones from these unnatural mothers to her care, in the hope that she might be a good feeder. They are now—after ten days of nursing—all that can be desired, and look like shortly being able to leave the nest. They are in an aviary containing nearly a hundred birds—and the only diet has been seed and greenstuff. Sponge cake has certainly been available, but since there is to-day three parts left of a solitary penny cake which was put into the aviary eight days ago, and since there are several Canaries among the great number of finches in the same compartment, it does not look as though much of this extra had fallen to their lot.

The other seven perished miserably.

I gather from the weekly press that people who give egg food are this year much troubled with bad feeders, so we see that while egg won't make a bad mother feed her young, a good one can rear splendid youngsters without it.

W. GEO. CRESWELL.



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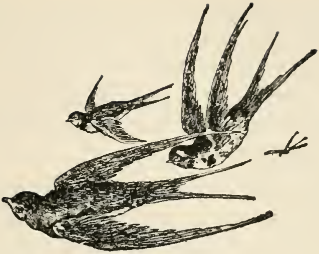
VINACEOUS FIRE-FINCH.

Lagonosticta vinacea

From living specimens. (male and female.)



The Vinaceous Fire-finch.

Lagonosticta vinacea.

By W. P. Pycraft, A.L.S., F.Z.S., etc.

ALTOGETHER twenty-one species of the Fire-finches have been described, and these are all confined to Africa. Concerning the life-history of the majority of these species we have still much to learn. To Dr. Hopkinson we owe some exceedingly interesting observations on their general habits, which will be found in the first volume of *Bird Notes*, but as yet we know little concerning their breeding habits.

Of the five species found breeding in South Africa two are known to build domed nests of dried grass in thick grass tufts, near the ground. The more northern *L. minima*, however, builds an extremely artistic little nest under the rafters in roofs, in holes in walls, and crevices.

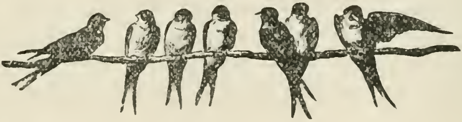
The Fire-finches belong to the sub-family *Estrildinæ*, characterized, among other things, by the fact that the male and female are nearly alike in plumage at all seasons, and have an autumn moult only.

The *Estrildinæ* thus differ from the *Ploceinæ* on the one hand and the *Viduinæ* on the other; inasmuch as in the former, the sexes are nearly alike in winter but differ slightly in summer, and they have a partial spring moult as well as an autumn one. In the latter, the sexes are nearly alike in winter but differ markedly in summer: the males having a highly ornate breeding dress.

The females of the Fire-finches, unlike many of their near relatives of the genus *Estrilda*, appear never to combine to carry on the work of incubation, as in the case of *E. astrilda* for example. Nor are any known to be polygamous, as in the *Viduinæ*.

From all accounts Fire-finches appear to be very sociable birds, and to make most admirable pets. On this point however I regret to be unable to speak from my own experience. In confinement they are found to eat, in addition to small seeds, insects, spiders, small caterpillars, and ant cocoons.

The three sub-families, *Ploceinæ*, *Estrildinæ*, and *Viduinæ*, form the family *Ploceidæ* (Weaver-birds). Of the three-hundred and fifty species included in this family—distributed over the Ethiopian, Oriental, and Australasian regions—no less than two-hundred and sixty are found in Africa. The nearest allies of the *Ploceidæ* are the *Fringillidæ*; and it is doubtful whether these two groups should not be united to form a single Family.



The Story of Bird-Death.

By W. Geo. Creswell, M.D. Durh., L.R.C.P., F.Z.S.

(Continued from page 74).

As I have said before, the use of the microscope is the only means by which we can conclusively settle whether any particular bird has died of septic disease or not; though there may perhaps be an exception in the case of a bird in which the internal organs are manifestly healthy, and which shews indisputable evidence of having received from the outside some injury sufficient to cause death. Even here however there is just a remote chance of the bird being in the very earliest stages of septicæmia. The organs in this case would as yet be apparently healthy to the naked eye, and yet a microscopical examination of the blood would reveal the coincidence of the disease with the injury.

One is somewhat led to dwell upon this, because, while the microscope shews that some form or other of septicæmia is one of the most prevalent causes of death in captive birds, the internal evidence afforded by the stray allusions to this disease met with in various quarters goes far to suggest that the name alone and its ordinary dictionary explanation constitute the chief, or perhaps the only knowledge of it on the part of the "experts." We certainly often see a casual mention of some pathological condition or of some clinical symptoms which rightly belong to it, but almost invariably there is airily tacked on to these the name of some totally different disease—different in its causation, different in its course and pathology, and only identical at one point—where death strikes both alike. Generally indeed this different disease is either one to which birds are not actually known to be susceptible, or else one against which they are altogether immune! A more dangerous mistake in its ultimate effects upon our birds is hard to conceive; but when one remembers that the men who are guilty of it are those who constantly assume the position of being the only efficient guides and leaders of aviculturists, the stupidity of it dwarfs every other consideration. And when it is sought to cover the pitiable mistake by the still more miserable excuse that it does not matter, words simply fail to express one's astonishment. "Any port in a storm" is an old proverb, and doubtless to some minds such a defence may be admissible—perhaps even praiseworthy; but let us see how a similar case works out when applied to ourselves.

A child, presenting certain cerebral symptoms, is taken by its anxious mother to a man, who, while absolutely innocent of all knowledge pertaining to medical science, has nevertheless come to be regarded as a wonderful physician by the laity at large—entirely by reason of a well advertised assumption of knowledge. Seeing that the patient seems drowsy and that in other respects there appears to be something the matter with its head, and being pretty familiar with the word "beri - beri," this gentleman promptly diagnoses that disease, although at the same time—did he and the child's mother but know it—it is one to which English children are complete strangers. Having next been entertained with a few illnatured sneers directed against those who have made it their life's business to study both the science and art of medicine, and armed with a prescription of no earthly value in either beri-beri or any other disease, and moreover loaded up with curious directions and *obiter dicta* as to feeding, our confiding mother at length takes her child home—generally to die. This performance having been gone through so often in the market place—all but the final stage, which takes place in private and unattended by any flourish of trumpets—that at length every one, performers and audience alike, has come through sheer habitude to believe in its genuineness, it happens at last that some medical men "interfere" with the business. These men, who have long known that beri-beri does not exist in this country, discover by careful investigation that what the poor children have been suffering from is really an infectious cerebro-spinal meningitis, an affection entirely different from beri-beri in all material characteristics and due to quite another micro-organism !

Thus does Nemesis once again proclaim her immortality, and one can well appreciate our practitioner's feelings on being so rudely checked in his career. One can easily understand the eagerness with which he loudly proclaims the needlessness of his knowing anything about the distinction between the two diseases, thereby hoping to retain the confidence of the crowd. It is not difficult to imagine the depth of his wrath at "having his pitch queered" by these inquisitive men with their beastly microscopes : indeed, without straining the quality of mercy, one could even be compassionate enough to suggest the advisability of his forsaking his open pitch and taking (on a long lease) a snug little tenement, where with the aid of a carefully selected bodyguard, he might in future pursue his calling in peace and without fear of malicious interruption.

But what are the parents of all these little invalids thinking ? Do they say that it does not matter that their children have all along been afflicted with a disease of which the doctor could not even correctly give the symptoms, the while that he had been glibly calling it by the wrong name ? And what will be their feelings towards this very self assured person when they come to know that the special diet which he so confidently recommended is one that has a pronounced tendency to accentuate the virulence of "the" disease? We stop our ears lest we hear their language.

Although birds are not children, the principles involved in the correct understanding of the diseases of both alike are the same, and it does matter very strongly that people who know nothing about disease should presume to act and speak as if they knew all about it. If the matter were only of less importance one would be tempted to smile

As a master smiles at one who is not of his school,
Nor yet of any school, save that where blind and naked ignorance
Delivers brawling judgments unashamed
On all things all day long,

but as it is, a very different sentiment occupies one's mind.

While we thus see symptoms belonging to septicæmia so casually relegated to diseases with which it has nothing in common save its ultimate ending, it must be admitted that we do occasionally come across it by name. But here again we are generally doomed to disappointment, for we find that the principal characteristic associated with it in the minds of most people seems to be putridity. The only train of reasoning at hand to explain this curious conceit would seem to be this:—one meaning of "septic" is "rotten;" therefore a rotten bird is probably one which has died of septicæmia. To our authorities on avian disease and death this is evidently quite plain, for does not the dictionary define septicæmia as "a contamination of the blood with putrefying matters"? and surely is not that enough on which to found a guess?

But speaking seriously, this dictionary definition is woefully loose in its wording and is calculated to be intensely misleading to those who have not had any adequate pathological training. Septicæmia is a disease set up, and characterized, by the infection of the blood and tissues of a living animal by certain organisms, which, when they attack dead tissues, in only that case cause putrefaction; and this is not quite the same thing as what the lay dictionary tells us. Septicæmia is one thing and is sometimes found in the living; putridity is another thing and is only found in dead tissues; both alike being caused by various organisms which are not only saprophytic but are also capable under some conditions of being parasitic.*

A dead bird whose internal organs are in a "depraved" condition is simply a putrid bird, and except in one class of case it is not possible to say that the septic organism inhabited it during life and caused its death. Oddly enough it is just this class of case which is never recognized as septicæmia by our quasi-scientific friends.

(To be continued).

Bird Notes from the Gambia.

By E. Hopkinson, D.S.O., M.A., M.B.

(Continued from page 103).

We now pass to the HOOPOES, a family of which we have representatives of each of its sub-families, namely one of the first, the *Upupinæ*, and two of the latter, the *Irrisorinæ*. The first is the Common Hoopoe (*U. epops*), which is found throughout a great part of the old world, and which not infrequently visits England: where, I believe, it has even bred, when by some chance a pair has had the extraordinary luck to escape the collecting gun. Here it is by no means an uncommon bird, and, I should think, certainly nests here; it is usually seen singly or in pairs looking for food on the ground and strutting about with a very starling-like gait, or perched on a tree or tall bush, where its beautiful crest and elegant shape show to the best advantage. Much more common however is one of the *Irrisorinæ*, *Irrisor erythrorhynchus*, the Red-billed Wood-Hoopoe, a black bird with white wing-marks, a fan-shaped tail and a long curved red bill. This bird, which the natives call by a name which means "Stinking bird,"* is found nearly everywhere, where there are trees or bush, among which noisy chattering parties flit slowly about with rather feeble flight and hesitating wings, searching the branches for insects, tapping and pecking the bark, like Woodpeckers, with their long bills, and climbing about the trunks and boughs like overgrown Tree-Creepers. Even in the breeding season, in the early part of the rains (July), one still sees these birds in parties as at other times, as they breed in company in holes in trees. In one tree, from which two down-covered young were brought to me, there were three other nests of these birds, all in holes in the main trunk, the lowest at least twenty feet from the ground. One of the holes had two months before been occupied by a pair of Hornbills as a nesting-site, and was about eighteen inches deep, and had an opening which easily admitted a hand and arm; but the others were much more protected, the entrance-hole being only big enough to admit the parents, that is, about two inches in diameter. I rather expected, (from what I had read about their nesting-habits), to find the exterior of the nest extremely foul from the accumulation of excrement and food-refuse, but this was by no means the case: although the interior, or rather the two young ones from the interior, were dirty and evil smelling; and no doubt the exterior would have been as bad, if it was not so frequently and thoroughly washed down by the almost daily rain of the season, which comes down in sheets that almost clean up an ordinary native town, much more so, therefore, the trifling mess a few small birds can make.

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* *Bird Notes*, Vol. II. page 114.

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* These birds have a most peculiar mousey smell during life or when recently shot, but it is not to this they owe their name, as this smell apparently the natives do not perceive, but they say that when cooked the flesh is so foul-smelling that even the Jolas, our most omnivorous native race, cannot eat it; hence the name.—E.H.

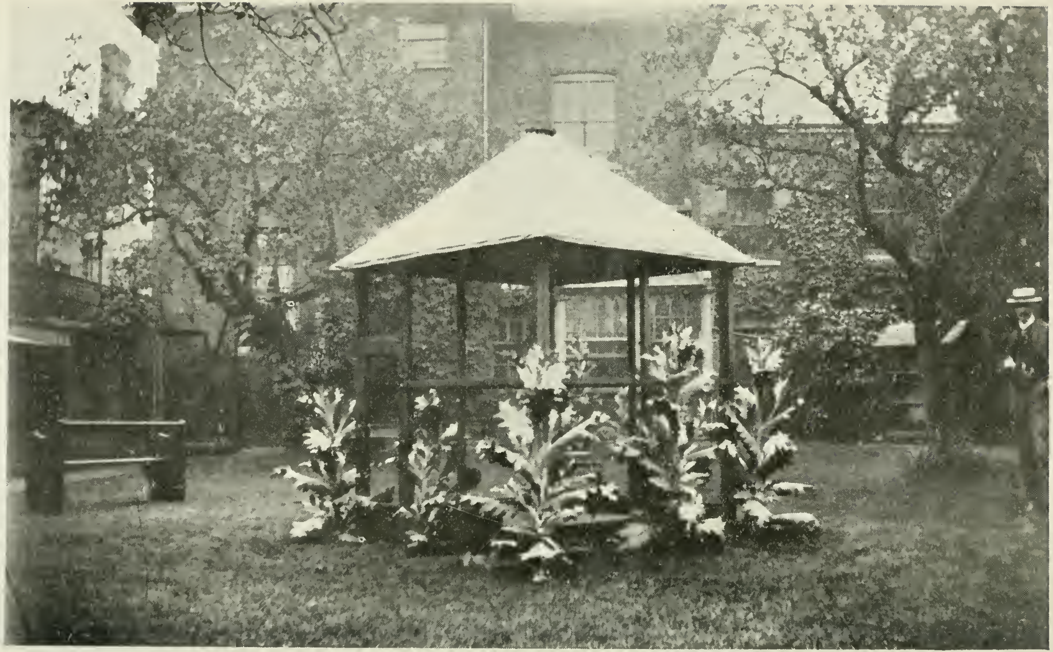
Our other Wood-Hoopoe is *Scoptelus aterrimus*, but this bird I do not know, or have not recognised it, if I have seen it, (as no doubt I have, since it is said to be fairly common).

Next come the HORNBILLS (*Bucerotidæ*), which are represented in Gambia by four species, three of which are common, namely the large Ground Hornbill and two smaller species.

The first-named, *Bucorvus abyssinicus*, is a bird about the size of a goose, though when alive on the ground or on the wing, it looks much bigger, in fact, absolutely enormous, and whenever I come on a pair of them stalking sedately over the plain, I am always reminded of the Dodo—its pictures, of course, I mean. These Ground-Hornbills are dark brown clumsy-looking birds with a white wing-patch, which however is only noticeable when they spread their wings; their cheeks are naked and of a fleshy-red colour, as is also the turkey-like pouch which hangs from the chin. They are usually found in pairs walking about the dry swamps, but in the early morning one not infrequently comes on a flock of twenty or more feeding altogether in the fields and clearings, and on these occasions they are much less shy, and allow one to approach much nearer before they fly away, than they do later on in the day—when they are much more wary and keep well out of gunshot, stalking slowly away as one tries to approach, and only taking wing if pressed. Their main food appears to be frogs and reptiles which they find in the swamps, but they also eat any dead ones or other carrion they come across, and, in addition, I am pretty sure they also eat groundnuts and various bush-fruits; at least, one I knew tame used to eat any kind of food, animal or vegetable, indiscriminately, and was particularly fond of all kinds of fruit.

The other two species are much smaller birds, being about the size of a Pigeon, though their long necks and bills, and general loose build, make them appear larger. The commonest species is the Black-billed Hornbill (*Lophoceros nasutus*), a brown and white bird with a yellow and black beak, which is plentiful everywhere at all seasons, but simply swarms in and around Bathurst at the beginning of the rains, and where it is commonly known as the "Rainbird." The other species, the Redbilled Hornbill (*L. erythrorhynchus*), is mainly black and white in plumage with a red beak; it is rather smaller in size and more locally distributed than the Black-billed species. In habits both are alike, haunting trees and bush, and feeding chiefly, if not entirely, on vegetable substances, fruits, berries etc., and like so many other Gambian beasts and birds, living almost entirely on groundnuts during the time they are fresh and still lying in the fields. Their note is a long-drawn whistle, and their flight slow and dipping, and often much hindered and laborious if there is any wind against them. They nest in holes in trees, the female, as is usual in this family, being walled in and fed by the male during the period of incubation.

(To be continued).



THE LAWN AVIARY, EDEN LODGE, KINGSTON-ON-THAMES.

Photo. by Miss Fothergill.

Notes on Housing and Hygiene.

By W. Geo. Creswell, M.D. Durh., L.R.C.P., F.Z.S.

(*Continued from page* 99).

THERE is plenty of scope for an ingenious aviculturist in the building of these outside aviaries, provided he can get the idea well rooted in his mind that birds will come to no harm in the open, and that simplicity of plan is the best order of the day. For instance, say as summer quarters for young Canaries, even if the owner were too timid to use it in the winter, what could be prettier in the centre of a lawn than a hexagonal or octagonal aviary made entirely in sections of slate battens and wire netting, with a well pitched roof coming up to a point in the centre? A few nasturtiums or a jasmine trained over it would provide shade from the heat of the July sun, and the internal shelter afforded by the high pitch of the roof would be found to give sufficient protection from rain and wind. The square one on my own lawn, of which I give an illustration, I have found very useful; and many people have expressed the opinion, in spite of the plain and simple design, that it is also ornamental. By having a few perches and shelves placed high up inside the roof, together with plenty of cocoa-nut husks, for roosting quarters at night, I have managed to keep in perfect health all through two or three winters such birds as Canaries, Indigo Buntings, Green and Grey Singing Finches, Weavers, Budgerigars, White and Grey Javas, Whydahs, various Mannikins, and several species of our British birds. Even specimens which had been imported during the summer I have found to do perfectly well in this aviary during the succeeding winter; and here again we get an object lesson, one that is even stronger than is afforded by those aviaries situated under the wall. Many mornings when the water in these latter has not been frozen at all, the bath in the exposed central one has been a solid block of ice, and on the occasions of heavy gales of wind the feeding hoppers are often blown off the little table in the centre.

The fact of the matter is that most birds would be found to live (and live comfortably) out in the open, but for the inborn distrust in our minds of that gift which is the best of all—fresh air. As I have said before, cold in itself is nothing to birds as long as they are in moderately good health, but oxygen and exercise are everything. Even those who admit that a Zebra Finch is hardy only do so because it happens to be cheap, and because therefore they have not so much minded the making of an experiment with it. Probably if some of the rarer birds could be freely obtained for half-a-crown we should soon hear of their being relegated to the rank of "hardy" birds, but since they are high priced owing to various difficulties attending their importation, they are for the most part religiously kept in heated and more or less ill ventilated aviaries; consequently the resulting heavy death rate naturally stamps them as "delicate," and "difficult to acclimatize." With the insight beneath the surface given to me by pathological work, it is easy to detect the inappropriate nature of the word "acclimatized" in most of the instances of its use in relation to foreign birds. When one comes to think—to really think—one sees plainly enough that acclimatization means the adaptation of themselves on the part of the birds to the new environment of altered seasons for breeding and moulting. It means nothing more, since it is not so much change of climate that the poor things have to fight against when they are first in a European country: in their own natural habitat, however hot it may be at times, they are obliged to withstand the most startling changes of temperature. What is so fatal to our new visitors are the insanitary conditions to which they are exposed from the moment they are caught, up to, and indeed very often after, the time they are placed in the hands of their ultimate purchasers. Thousands are caught on their native shores, hundreds are landed here: of these hundreds two-thirds perish in the dealers' stuffy and dirty shops, and four-fifths of the remainder die directly after the railway journey to the confiding amateurs who have sent cash in advance, leaving at a generous estimate but a tenth part of those landed to console the heart of the much disappointed fanciers, who, unable to discard pernicious traditions, and influenced in a wrong direction by the reflection that they have to no purpose spent much money in the past, just complete in their heated and comparatively oxygenless birdrooms the evil work begun by the catchers and continued by the shippers and dealers. The so-called acclimatized specimens are merely those which have survived the unhealthy conditions attaching to their loss of liberty: when they have shewn their resistive power by remaining alive they have yet to begin the process of real acclimatization, sometimes taking as much as two or three years before it is finally accomplished. For instance, I have three Grey Singing Finches, which have this year for the first time started their moult at the proper season, although they have been in my aviaries a little over three years.

To give my readers an idea of the special nature of the influence which fresh air exercises on the animal organism, let me here quote a recent writer whose words deserve thoughtful attention on the part of bird lovers, although they were primarily written in reference to consumption and another dread disease. Dr. Douty says :—" . . . . . there are a great many, " medical men and others, who because they have not " thought about it have an idea that the open air has "some direct influence on the lung tissue in consumptives, ... but a little thought will shew them "that it is not the influence of open air on the lungs "which brings about the cure of pulmonary tuberculosis, but that it is the influence of pure air and "sunlight on the blood, and through it on all the other "tissues of the body, and chiefly the nervous tissues, "by which the good results are obtained. Fresh air "heightens metabolism * in every way, and raises "all the tissues to their highest point of resistance, so "that they do not succumb to the persistent attacks "of the poisons constantly carried hither and thither "by the circulating blood. The nervous system "responds the most readily to the purer and richer "pabulum brought to its inmost recesses by the blood, "and as its cells are better nourished, so its trophic "influence is maintained, and the metabolism and "growth of all the tissues is ensured and maintained "at its highest, and *they are thus enabled either* "*actively to beat off, or else passively to refuse to succumb* "*to the specific poisons of any disease.*" †

A careful consideration of these words, penned by no mean authority, and pregnant with the wisdom which comes of intelligent thought and reasoning, will show us what is the right course to pursue with our feathered captives—at any rate with those which are not irretrievably injured when they come into our hands. Even these however may as well die in an outdoor quarantine as indoors, while those which are not beyond recovery from the effects of foul air and unclean feeding will stand a better chance if they are immediately removed to the best surroundings possible to us.

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* By metabolism is meant the collective chemical changes which are constantly going on in the body, and which constitute the act of living. In other words it signifies the process of changing inert substances—food—into living tissues. W. G. C.

† *British Medical Journal,* Feb. 28, 1903.

So much for our general principles: now let us see what with propriety may be urged against them, or rather against their adoption at any indiscriminate time of year in the case of certain individual birds. It is manifest that a bird which has been kept for weeks or even days under the horrible conditions I have alluded to cannot be in possession of great resistive power against either disease germs (even if they are not already present) or the depressing effects of severe cold, although it is true that we must not measure a bird's resistance to cold by our own, seeing that while our normal body temperature is only 98.6 degrees, that of a Canary or other small bird is the extraordinary one of about 108.

Therefore if the bird has been landed here late in the autumn it would scarcely be fair to transport it at once to an open garden aviary, and so straightway expose it to the ennervating influences of our November fogs and December rains. If it were imported in March I should not so much mind turning it out then—with this one proviso, however—that the weather were *dry* and *bright*, and the aviary somewhat sheltered from the east wind. The risk in this case would not be so great, but there is none at all if we wait till April or May before we make our annual purchases. That is the best time from all points of view to acquire small foreigners and to introduce them into a roomy garden aviary.

I ought to say here that although the foregoing remarks have been primarily written with regard to seed eaters, they apply with equal force to those birds which we call insectivorous. Provide these with both fresh and dried insectile food, to which has been added a proper proportion of vegetable matter, and do away with the disastrous egg food which is in no way at all a substitute for insects, and we shall then find them in every respect as hardy as their seed-eating brethren—

indeed even more so. In saying this I am guided no more by theoretical considerations than by that practical experience which has proved them to be right.

(To be continued).

The Food of Birds in Captivity.

By H. R. Fillmer.

(*Continued from page* 18.)

German Rape is a good seed for such birds as will eat it, and I never knew any harm to result from its use. As a rule *Ploceine* finches will not touch it, but Dr. Hopkinson found his Silverbills very fond of it—mine will not eat it. I recommend its being given, in moderation, to all birds, British or foreign, which will eat it—but they should not be allowed to live almost entirely on it, to the neglect of canary seed. Care should be taken that it is fresh and free from moisture as it does not keep well. The large winter rape is generally considered a dangerous seed, and I never use it myself, though it may be questioned whether it fully deserves the condemnation passed upon it.

Hemp seed is valuable, but requires to be used with discretion. If crushed, almost all birds will eat it, and I think a little occasionally is good for most of them. It should form part, a considerable part, of the daily food of Goldfinches—but most other species should only have it as an occasional treat, or when rearing young. It is very fattening and stimulating, but birds which are feeding young appear able to eat any quantity of it without injury to themselves.

Maw seed may be useful for occasional use as a pick-me-up, and for checking diarrhœa—but it is extremely fattening. Some birds will eat it which will not touch rape or hemp, and in such cases it is sometimes valuable.

Inga seed has been denounced as highly dangerous—but it is doubtful to what extent this condemnation is deserved.

Linseed, again, is a seed which has been strongly condemned by some writers—but which is often given to Linnets, Goldfinches, and other British finches.

As to these three last mentioned seeds, maw, inga, and linseed, I confess that I have but little personal experience of their use, and therefore feel incompetent to express a decided opinion about them. I should advise caution in their use, especially in the case of caged birds—for birds in an outdoor aviary can often digest, and thrive upon, food which would be injurious to birds in cages.

Teazle is difficult to obtain in good condition—but when really good it is a most useful seed for Goldfinches.

Buntings and Virginian Cardinals should have a few mealworms, and so may the more insectivorous finches such as Chaffinches, but as a rule I am sure that the small seed-eaters are better without them. Even Buntings should receive them in strict moderation.

All the finches and Weaver-finches are more or less insectivorous, and most of them are better for an occasional variation from their plain seed diet. Of course, the need for insectivorous food, or some substitute for it, varies in the case of each species; some, like the Redpoll for instance, are almost exclusively seed-eaters, while others, like the crestless Cardinals, are quite half insectivorous. The dangers of egg-food have been pointed out to us by Dr. Creswell, and I, for one, have entirely abandoned the use of egg for birds, but it is comparatively easy to supply its place. Dry sponge cake, crumbled, is generally eaten readily by all birds which will take egg—personally, I am rather suspicious of sponge-cake, for when it is good it contains a considerable quantity of egg—but crushed sweet biscuit is taken almost as readily. A little "insect meal" or some ants' eggs may be mixed with the sponge cake or biscuit. *Colifichet*, a kind of gluten bread made in France, is a useful and wholesome food—it is sold in small horse-shoe shaped "rolls," which can be hung up in the aviary or cage for the birds to peck at. A very small quantity of milk sop has been recommended, but if it is used care must be taken that pieces of it are not left in the cage or aviary to get sour. It is a good plan to supply any food likely to turn sour in a small pan placed inside a larger one—such as a soup plate—fragments thrown out of the inner pan will generally be caught in the outer one, and both can be removed together and washed. It should be remembered that milk-sop has a very laxative effect on birds, and I do not think an habitual use of it is even advisable. I very much doubt whether the advantages of milk sop are not more than outweighed by its dangers, except in the case of Lories and similar birds. For reasons which Dr. Creswell has pointed out, it is desirable to restrict the diet of birds to such food as will not undergo any septic change, and it is impossible for any moist food to fulfil this condition, therefore dry food should be used, as far as possible. Plasmon powder is a highly nitrogenous food which seems worth experimenting with: a little mixed with powdered biscuit forms a food quite as nourishing and stimulating as the usual egg mixture Birds in an outdoor aviary—when it is fairly large and not too crowded — no doubt obtain a quite appreciable amount of live insect food, and are consequently more independent of artificial additions to their seed diet than are birds kept indoors.

Green food is undoubtedly important to the health and happiness of all finches. In an outdoor aviary, if the number of inmates be not out of proportion to its size, a part of the ground should be laid down in turf, and this will supply all the green food required, though a daily supply of other green stuff will be appreciated. Indoor birds can have water - cress, chickweed, shepherd's purse, or lettuce. I use chicory leaves more often than any other form of green food, and find it a very convenient plant for the purpose, as a few roots afford a constant supply through the summer. Groundsel is useless for foreign finches. Green food in a frosted state undoubtedly does harm at times. In the winter, the safest green food consists of either watercress or of rape seedlings grown indoors in pans. Fruit, such as apples, may always be given with safety, but some seedeaters will not touch it.

Such finches as are accustomed to feed their young mainly on a vegetable diet can bring them up on nothing but seed and green food. But as almost all finches supply their young, to a greater or less degree, with insects, it is desirable to supplement the seed and greenstuff with something more nitrogenous. Fresh ants' eggs are the ideal, but are usually unattainable—and in their absence almost any soft food suitable for insectivorous birds may be given. Egg in any form is certainly neither necessary nor desirable.

II. DOVES.

The smaller species appear to do well on canary-seed and millet, with a few hemp-seed occasionally. The larger species may be fed much like fancy Pigeons. Crumbled sweet biscuit has been recommended as an addition to their dietary.

III. SEED-EATING PARROTS AND PARRAKEETS.

The larger Parrots do well on a mixture of canary, hemp, sunflower, oats, wheat and crushed maize, but they should have some fresh fruit almost daily, and an occasional biscuit for a change. Some of the "Parrot Mixtures" are quite unobjectionable—but it is always cheaper, and usually better, to buy the seed separately and mix it yourself, as you can be the better assured of the quality of each kind.

The smaller Parrots and Parrakeets will live mainly on canary seed, with some Indian millet, and occasionally a little hemp or a few oats. They should also have fruit and plenty of green food.

IV. FRUIT OR POLLEN-EATING PARROTS.

Practically, these consist of the Lories and Lorikeets, and the Hanging Parrots. I have no personal experience of the Hanging Parrots, but should imagine that they require the same treatment as Lories.

The true Lories (*Eos* and *Lorius*) certainly differ in their feeding from Lorikeets. Lorikeets will eat seed much more readily than Lories, and do not require such very soft food. The principal food, for all these, should be milk sop, made by pouring boiled milk upon powdered biscuit. I never sweetened the sop—but some aviculturists recommend the addition of a little sugar, and it may possibly be an advantage. For Lories, the sop should be quite sloppy, and those of the genius *Eos* seem to like it especially liquid. For Lorikeets it may be firmer. It is scarcely needful to say that milk sop must be made fresh every day, and the pan containing stale sop should be removed from the aviary—but I never found it necessary to make it *more* than once a day, even in the hottest weather. Besides sop, these birds should have fruit daily—apples, bananas or oranges. Many of the Lories will at first refuse anything so hard as raw apple, and for these there is nothing better than stewed apple well sweetened, or banana mashed up in orange juice. In the summer, green food may be given. Dates and dried figs form a useful change of diet. The dates may be given as bought, but the figs should be stewed and afterwards mashed. Canary seed may be supplied, and will be occasionally eaten by some of the Lorikeets. All these birds resent a sudden change of food, and anyone acquiring one of them should ascertain how it has been fed, and supply it at first with its accustomed food however unsuitable it may be, until he can persuade it to take to the diet here recommended. Lorikeets will often eat nothing but canary-seed when they have been fed upon it for a long time. (I believe that "Blue Mountain Lories" are almost always so fed on the voyage from Australia). On the other hand, some Lories will refuse all solid food, and have to be fed at first on sop made so liquid as to be little more that boiled milk, and orange juice.

For a good many years I was never without Lories and Lorikeets—and kept, altogether, five different species. I never lost one, and I never had one sick—and these facts are, I think, sufficient proof that the diet here recommended is not far wrong.

(*To be continued*).

Post Mortem Reports.

(*Vide Rules*).

MANNIKIN. (Mr. Horton). Pneumonia: had been ill some days.

NESTLING GROUSE, three. (Mr. Pycraft). All three died of that form of septicæmia known as "Grouse disease."

BUDGERIGAR. (Mr. Slatter). General septic disease, accompanied by universal congestion of all the internal organs.

NECKLACE DOVE. (Miss Baker). General septicæmia involving pneumonia of both lungs.

GOULDIAN FINCH. (Mr. T. N. Wilson). Both lungs showed a condition of catarrhal pneumonia.

URAL OWL. (Mr. Beech). This bird was too decomposed for accurate examination.

TREE CREEPER. (Mr. Howe). Septic enteritis was the cause of death. I should recommend the owner of this bird to read "The Story of Bird-Death" and to carefully reconsider the position with regard to egg-food.

CANARIES, two. (Mr. Acutt). Pneumonia was the cause of death in both instances.

PHEASANT POULT. (The Hon. M. C. Hawke). There were a few gape worms in the trachea. The primary affection was a condition which goes by the name of cramps, and which is characterized by an inflammation of the heads of the long bones of the legs, caused by the presence of micro-organisms. In addition to this there was present a pneumonia of both lungs.

BUDGERIGAR. (Mrs. Hulton). A general septic condition was present, with which was associated a considerable amount of brain hæmorrhage.

DIAMOND FINCH. (The Hon. M. C. Hawke). Death was the result of a blow on the vertex of the skull, producing concussion, followed by compression of the brain through hæmorrhage. The bird was a female. The secondary sexual differences in this species are said to consist in a slight variation in the colour of the base of the upper mandible, this in the male being bright red like the rest of the beak, and in the female shading off into a more rosy pink colour.

CARDINAL. (Mr. Ide). This bird died of apoplexy associated with "Strasburg" liver.

W. GEO. CRESWELL.

Short Notes, and Letters to the Editor.

BUDGERIGARS.

SIR,—On 27th June last a hen Budgerigar died in my aviary leaving two young ones a few days old. Since then the cock has regularly fed them and they have left the nest to-day (19th July) strong and well. The cock did not nestle them, even at night, but in every other way appeared as attentive to their wants as the hen could possibly have been.

Is it usual for the cock to keep so constant to the young ones for so long a time?

I have fed on canary seed, white and spray millet, a little wheat and barley (apparently much appreciated) and plenty of lettuce and flowering grass. E. WM. CHAPLIN.

BENGALESE FEEDING YOUNG BULLFINCHES.

SIR,—I have a cock Bengalese, which flies about the room as he likes; I have also a nest of young Bullfinches being hand reared. As soon as the Bengalese found out the Bullfinches, he went into their cage and fed them, and continued doing so, never missing one out, till they could feed themselves. Is not this rather unusual? E. B.

"NEW WINE IN OLD BOTTLES."

In the correspondence columns of the *Feathered World* Dr. Butler has complained of the publication of the article under the above heading, which appeared in our issue for July. He characterises the article as "ill judged and impertinent," and regrets "that mere courtesy was insufficient to prevent Dr. Creswell from carrying the discussion into the pages of a Magazine which he thought I should be unlikely to see." With regard to the latter point, Dr. Butler is entirely mistaken —the author of the article in question, before it appeared, requested that a copy of the Magazine containing it should be forwarded to Dr. Butler. This was not done, the Editor fearing that his motives in sending it might be misconstrued. As to whether or not the article be "ill-judged and impertinent" we leave our readers to decide for themselves. Neither the Editor, nor the Magazine Committee, accept any responsibility for the views expressed in signed contributions in this Magazine. The article in question, however, is on a different footing, for though the authorship is, of course, an open secret, it appeared as an unsigned article.

It is to be regretted that the controversy as to the use of egg as a food for birds should have taken such a personal turn. It would seem to be a subject on which good men might agree to differ, and if the principals in the dispute had both adopted a more conciliatory tone their arguments would have lost none of their weight, and much friction, which always means loss of power, would have been avoided. However, the personal element having been introduced cannot now be eliminated, and we therefore think it better, once for all, to make our position in the matter plain.

We fully recognise the important services which have been rendered to aviculture by Dr. Butler, and we respect his knowledge and ability as an ornithologist. It is due to him, probably more than to any other man, that the gulf between the aviculturists and the cabinet ornithologists, which formerly existed, has been bridged. He was truly the pioneer of scientific aviculture. Some ten or twelve years ago the great majority of bird keepers almost prided themselves on their ignorance of classification and structure—while the ornithologists despised them as a set of ignorant "bird fanciers." Dr. Butler's writings have done much to alter all this. His services in this behalf alone would entitle him to the respect of the avicultural world.

But for Dr. Butler as an authority upon the feeding and general treatment of birds in captivity we cannot express the same admiration. We believe, and we always have believed, that this practical side of aviculture is emphatically not his *forte*. All through his writings on this subject there are the same defects—a hasty arrival at conclusions from insufficient premisses, a constant laudation of some supposed panacea, (at one time Abrahams' food, at another bread crumbs—and so on) —and, worse than all, a dangerous and unwarranted assumption of knowledge on medical and semi-medical subjects.

The fact is that the aviculture of the present day—the aviculture taught by the Foreign Bird Club—is scientific in a fuller and deeper sense than the "scientific aviculture" of ten years ago. Science then meant, to aviculturists, simply ornithology. Now we understand by "scientific aviculture" the application to aviculture of *all* branches of knowledge which have any bearing upon it, and especially modern medical science. It appears to us that Dr. Butler, and some other well-known writers on aviculture, have not yet fully awaked to this fact—for, instead of appreciating the labours of the medical men who have recently applied the results of their bacteriological investigations to the subject of bird food, they set themselves in violent and prejudiced opposition to their conclusions,

"And, half a league behind, pursue
"The accomplished Fact with flouts and flings."

THE MALABAR GREEN BULBUL.

It is extraordinary to notice, in the bird market, how certain birds appear (sometimes in numbers) and then are not seen again for a long interval. Green Bulbuls are an instance: I believe some were imported in 1897, and I did not come across any more until June 1901. I saw a few at intervals in 1901, but have not seen any for sale since. This seems strange, as there is a constant importation of birds from India.

The prices of the first two that came over in 1901 were originally rather too high for me, but a gentleman, well known in the bird world, having purchased one, (leaving the other as he said it was weak in the chest and not likely to last long), I at once made an offer for this remaining bird, which under the circumstances was accepted. The healthy one on arriving home was put into a large aviary, and died in a fortnight. Mine had to be content with a cage, and he is alive and healthy now. His chest trouble got well after the administration of syrup of squills, which he could be persuaded to take off the end of a feather, without any handling—for he never was at all wild, as newly imported birds usually are*—and he soon gained strength and lost his cough. These Bulbuls are among the most interesting birds to keep—they take so much interest, and show so much confidence, in one. The only bad point about mine is that he cannot be induced to bathe, in fact he is the dirtiest bird I have ever come across—keep his cage as clean as possible and scrape his perches regularly, he still manages to get his feet clogged with dirt and he has to have a compulsory footbath. It is no trouble to catch him—if it can be called catching, as I simply have to pick him off the perch—and the moment I open the door of his cage he knows what is going to happen and does not attempt to fly away. When I am holding him with his feet in warm water, he looks down over my finger at them and then up at me as if to say, "What *are* you doing to me?" but he does not mind, and will even eat a mealworm during the operation, and when put back into his cage always makes a remark which I understand to be "Thank you."

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* Is not the tameness of this and other Indian species accounted for by the fact that caged examples are always hand-reared?—Ed.

I feed my Bulbul on the same soft food as I give the Tanagers, and plenty of fruit, which he is always in such a hurry for, that he squeezes his head in between my fingers to get at it while I am hanging it up. He prefers a soft juicy fruit, such as orange or very ripe pear, and is always ready for any insects such as mealworms, spiders or bluebottles. If I enter the birdroom with a tumbler in my hand it is a signal for great excitement in his cage, as he knows there is a spider in it, and he will reach right to the bottom of the glass to get it. One great advantage which this bird shares with many other Indian birds, and which I suppose they owe to the intelligence of the natives, is that they are always imported in separate cages and consequently arrive in a much healthier condition than the majority of birds coming from other parts.

S. M. TOWNSEND.

I have read Mr. Townsend's article with much interest, as I have a Malabar Bulbul who also will never bathe and makes himself in such a mess with his fruit. I have got him a large wire cage, which I have painted over with a metal preserver, and now I water the whole thing, cage and bird, with a watering pot about twice a-week; at first the bird was rather frightened, but now seems to quite enjoy it, and it is astonishing how his plumage has improved. He is exceedingly tame and devoted to mealworms: when he sees one being brought to him he dashes at the bars squeaking with excitement. I consider they are quite the most delightful cage-birds, and seem to do so very well. I might add I also water two Shâmas with a watering pot; they also enjoy it, sitting on their perch with their wings outstretched.

W. B. WROTTESLEY.

"TINY" AVIARIES.

In the *Feathered World* of the 29th July last Dr. Butler referred contemptuously to what he was pleased to call Dr. Creswell's "row of tiny aviaries."

I allude to this matter with reluctance, but feel bound to do so because the Editor of the *Feathered World* suppressed at least two letters pointing out the inappropriateness of Dr. Butler's adjective, and merely printed a sentence or two from one of them in an obscure corner of the paper. And a fable, if uncontradicted, is apt to be mistaken for a fact.

Dr. Creswell's aviaries are in no sense "tiny." They are undoubtedly much more extensive than those of most of our members who possess aviaries at all. Moreover, they are considerably larger than Dr. Butler's own. I have seen the aviaries of both gentlemen, more than once.

While the *Feathered World*, formerly the "leading journal" of aviculturists, is more and more abandoned to obscurantism, it is satisfactory to note a steady improvement in the tone of its young and energetic rival *Cage Birds*, which is becoming a really interesting and useful paper. H. R. F.

EGG FOOD FOR BIRDS.

SIR,—I do not think that I shall be detracting from the credit due to Drs. Clarke and Creswell for their discovery of the dangers of egg food, if I remind your readers that a good many years ago our honoured member Dr. Greene pointed out that young Canaries could be reared better without it than with it. His statement was derided and disbelieved—and after exciting a brief interest the matter was allowed to drop. I believe some letters on the subject appeared in the *Bazaar*—in the early nineties, I think. RANDOLPH QUIN.

[We have a hazy recollection of the correspondence alluded to by Mr. Quin—and should feel grateful if any one who happened to preserve the papers in which it appeared would send us cuttings.—ED.]

A STATION FOR THE STUDY OF BIRD LIFE.

Articles of incorporation have just been drawn looking to the establishment on a permanent foundation of the "Worthington Society for the Investigation of Bird Life." The founder, Mr. Charles C. Worthington, will erect and endow, on his estate at Shawnee, Monroe County, Pennsylvania, the necessary buildings and equipment.

The Worthington Society will have for its purpose the consideration of bird life as it is found in nature, and will also have many birds under confinement for study and experiment.

The following is a summary of the chief topics that will present an immediate field for experimentation, which it is proposed by the liberality of the foundation to make continuous and exhaustive in the hope of reaching conclusive results.

I. The study and consideration of a bird as an individual. It is believed that by means of observation carried through the entire life of the individual, with a daily record, brief or elaborate, as exigencies may require, much will be learned regarding matters that are now obscure. Facts, such as growth, habits, health, temper, etc., will be daily reported.

II. The study of the occurrence, extent, nature and cause of variations in different representatives of the same species.

III. Changes in color and appearance correlating with age, sex and season.

IV. Changes in colour and appearance due to light, heat, presence or absence of moisture, and to food. How rapid a change in appearance can be effected by a new environment or a new set of conditions?

V. Heredity. What general characteristics are transmitted? Are acquired characteristics transmitted? The consideration of atavism, prepotency and telegony.

VI. Experiments in breeding. Hybridity and the fertility of hybrids. The possibility of establishing a new physiological species.

VII. Experiments in change of color due to moult.

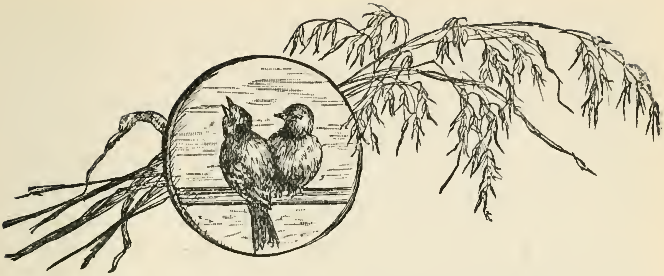
VIII. Adaptability. The plasticity of animals. How great a factor is this in domesticating new kinds of animals?

IX. The leisure of animals. How is this acquired? Being acquired, how is this employed?

X. Instinct, habit, and the development of intelligence.

XI. The possibility of breeding insectivorous and other beneficial kinds of birds to re-stock a given region or to increase native birds, as has been done in the case of fish by the United States Fish Commission.

A temporary laboratory and aviary is being equipped, and preliminary work will begin with the installment of a large number of native and foreign birds early in September. Mr. Worthington has procured the services of our member Mr. William E. D. Scott, Curator of the Departmen of Ornithology at Princeton University, as Director of the proposed work. Mr. Bruce Horsfall has been engaged as chief assistant and artist. The corps of assistants and workers will be increased as the plans of the Worthington Society develop.



Notes on Housing and Hygiene.

By W. Geo. Creswell, M.D. Durh., L.R.C.P., F.Z.S.

(*Continued from page* 132).

But with all its advantages living in an outdoor aviary is not by itself sufficient to keep our birds in health. Feeding, both in relation to the general principles involved in physiological chemistry and in relation to what particular foods from time to time best fulfil the conditions to be kept in view, is an important factor in successful aviculture. This will be treated of in a separate chapter; and it will suffice if I here confine myself to saying that as a general rule simple foods are sufficient—indeed that they are the best.

There remain then to be noticed but two or three things, principally the bath, and the necessity for cleanliness. With regard to the first I am as little bound down by conventionality as in some other directions, for I strongly deprecate the traditional advice so often given to us not to allow the bath on cold days or at some or other specified hour of the day. The proper time for the bath to be given is every day and all day throughout the year. That is to say a perfect bath is one which is never empty. In addition to this it should always be as clean as possible: one's ideal therefore is a shallow enamelled dish let into a cement bed, provided with an efficient outflow, and constantly fed by a tiny jet of water. A friend of mine who keeps a couple of hundred foreign birds in outdoor aviaries of the simplest design has baths of this kind fitted throughout, and fed from tanks which are daily filled and periodically cleansed. In fecundity, healthfulness, and general condition his birds are much above the average. In my own aviaries I unfortunately have no convenience for the automatic and constant change of the bath water. My plan therefore consists in the constant presence of a dish about two inches deep in each aviary. The water in these is always changed once a day, and since they serve for drinking vessels as well as baths they require filling twice a day in extremes of weather, i.e. the heat of summer and the depth of winter. At the latter period, when the ice has to be broken out of them before they can be refilled, it is instructive to see how eagerly the birds hasten to bathe directly after satisfying their thirst, both in the early morning and the afternoon. The water is always drawn direct from the tap and so cannot but be many degrees below the birds' own temperature: yet they come to no harm, although, as we are frequently told, such a procedure as cold bathing is held to be very injurious, especially with regard to the production of enteritis. That this popular idea is a mistaken one is amply proved by the healthy condition and low death rate not only of Mr. Dart's birds and my own, but also of all others that are allowed to conform to their natural habits in this respect. My friend and myself seldom lose a bird, except the newly bought one which comes to us in a dying condition from the dealer's shop, and which is so familiar to all aviarists.

The necessity of strict cleanliness in the aviary is even more to be remembered than the desirability of the constant bath. Many people are under the impression that the fact of the aviary being out of doors does away with the need of its being frequently cleaned. It is not so however. My aim has been to shew the importance of fresh, i.e. pure air. Of what avail therefore is it that our aviary is out of doors if it is allowed to get into such a condition that the air in it is alive with septic germs, as evidenced to our senses by the smell of putrid excreta and decaying food refuse? Of what use is it even that the birds breathe pure air at the top of a wire flight if they pick about on a filthy floor at the bottom? Better indeed a clean cage indoors than this state of things outside.

Especially in damp or rainy weather should care be taken to keep everything sweet and clean, for then the food and water are more prone to contamination with excreta than in the hot and dry atmosphere of summer. With all one's care and ingenuity in the arrangement of internal fittings birds cannot be prevented from scattering their food about on the floor and shelves, and they seem to delight in picking it up afterwards. In this they only follow their ancestral habits of foraging for more or less isolated morsels, but the effect on them is different when these habits are transferred from the open and uncontaminated spaces to which they are accustomed in a life of freedom to the narrow and overcrowded limits of an aviary floor, where there is necessarily a concentration of such agencies as inevitably work evil on the animal organism.

The floor therefore should be kept covered with coarse sand, as I have said before, to a depth of about two inches; and this sand should have the top carefully scraped off with a hoe at longer or shorter intervals according to the state of the weather and the number of birds kept. All seed hoppers, nest boxes, and shelves should be regularly cleaned with a hot solution of either boric acid or Jeye's fluid. In a general way the former antiseptic is indicated, though on occasion the latter will be found useful, inasmuch as it is particularly fatal to the various lice and acari which infest birds, and of which I believe more than one species finds a hiding place in the chinks and crevices of the wood-work. At least once a year—preferably twice—the inside surface of the walls and roof should be well scrubbed with Jeye's fluid solution and then brushed over with hot lime wash in which a little common salt has been dissolved. What is then left of this should be sprinkled on the floor before the fresh sand is laid down.

If any of my readers, and I am afraid there are some, who have previously neglected the simple hygienic measures which I have here somewhat meagrely sketched, will but adopt them, I can confidently prophecy a marked improvement in the condition and health of their birds. And if they will also intelligently consider a question which is intimately connected with that of cleanliness, viz., overcrowding, and will act accordingly, I can promise them an even greater measure of success.

We frequently see it laid down that an aviary will accommodate one bird of the size of a Norwich Canary for each square foot of ground space. This dogma appears to have been based on nothing more than the mere custom of keeping a bird in a small cage. Its authors have argued that if one Canary can live in one cage a foot square, and twenty Canaries can live in twenty cages of the same size, then two hundred Canaries can live in an aviary with the same floor area as two hundred of these cages would shew. But just imagine what an aviary 20ft. by 10ft. and one foot high would look like with two hundred Canaries in it! Why even the aforesaid authors themselves would recognise the mischief bound to accrue from thus recklessly massing such a population over so disproportionate an area. And this disproportion is no less existent when we have raised the height of the aviary from one foot to six or even nine feet. There is exactly the same amount of floor fouling in the one case as in the other, although when the roof has been raised the overcrowding is not so apparent to the eye. And as will have been seen, it is the fouling of the floor which has to be considered.

The conditions of bird life in a cage and in an aviary are in all respects different. A cage is always in the dry. It is moreover kept in a human living room, and for obvious reasons is therefore not allowed to become obnoxious to the sensibilities of its owner. Since its floor is of wood or metal and is easily removable it is kept clean by daily scraping and occasional scrubbing ; fresh sand (though generally of the wrong sort) is daily supplied ; and the food and water are usually outside the cage, and so through that and the other conditions of cleanliness are preserved from contamination with putrid and filthy matter. It is this and only this which makes it possible to keep a bird in health in the limited space afforded by a cage. To put two hundred birds into two hundred feet of aviary is another thing altogether, as anyone who has ever seen an aviary may realize if he will only consider the conditions necessarily obtaining in these enclosures—where rain beats in and fog stands thick, and excreta cannot dry, where food and water are kept inside, and where the floor cannot be perfectly cleansed except at lengthy intervals. Indeed it is questionable whether it can be *perfectly* cleansed at all.

We therefore see how necessary it is to modify the dictum of one bird to one foot if we are to give the birds anything like an even chance. My own opinion, based on considerable experience, is that two square feet of ground space is the very least that should be allowed under any circumstances to each bird of the size of a Norwich Canary, and I need not say that double that space would be better still.

One final word :—let the perches be as numerous as possible; let them be of various sizes and shapes: and let there be provided plenty of husks and boxes for the birds to roost in if they be minded thereto.

A Foreign-Finch Hybrid.

By L. W. Hawkins.

AMONG the finches reared in my aviary during the last year are three hybrids between a male Double-banded Finch and a female Zebra-finch. This hybrid is by no means new. In "Foreign Bird Keeping" Dr. Butler mentions a specimen which was bred in England about the year 1888, and gives an illustration from its skin. Quite a number were subsequently bred in Germany by Lieutenant Hauth, from whom I received a male in 1899. An excellent sketch of this bird is to be found on the front page of "The Feathered World" of April 20th, 1900. In my opinion the appearance of this hybrid is decidedly attractive, the characteristic points of both parents being distinctly traceable. There is only a slight amount of brown colour present, and this is on the sides, the ear patches being black. The beak is flesh-colored.

My German bird lived only about a year with me, and since that time I have striven hard to produce the same hybrid myself. For a long time I had four pairs of birds in four large separate cages. These pairs consisted of a male Zebra and a female Bicheno, a male Zebra and a female Black-rumped Finch, a male

Bicheno and a female Zebra, and a male Black-rump and a female Zebra. The pairs were so arranged as to be out of sight of each other, but not out of hearing. All four pairs built nests in cocoanuts, and eggs were continually being laid by the two hen Zebra Finches, but not by the hen Double-banded Finches. These eggs were generally in batches of four or five and both birds of each pair sat on them in turn. For many months, however, the eggs all proved sterile. At length, on examining a batch of eggs by holding them towards the light, I was pleased to find that they showed signs of embryos. These were from the cage with the male Bicheno and hen Zebra. Before they could be hatched, however, the hen Zebra unfortunately died. I put in another hen Zebra but no more fertile eggs appeared, although I kept all four pairs going for several months longer. As all the birds concerned were constantly exchanging call notes I thought perhaps that this interfered with the proper mating of the birds. I accordingly removed three of the pairs, and kept only a male Black-rumped Finch and a hen Zebra in a cage, no other Zebra or Double-banded Finch being within sight or hearing. Again there were many eggs, but none fertile. Later on I replaced the male Black-rump by a male Bicheno. The first eggs were sterile, but soon several fertile ones appeared. However, as long as they were in the cage the birds always failed to hatch them, though several times the dead birds in the eggs seemed large enough to hatch. I then turned the pair into a large aviary which also contained several other finches. They speedily built a nest in a German canary cage, and four eggs were laid. Only one egg however proved fertile, but this was duly hatched on October 14th, 1903. On April 12th, 1904, another hybrid was hatched out, and again on July 14th, 1904, still another, but strange to say in all three cases there was only a single fertile egg in the batch. The oldest of the three is now identical in appearance with the bird I received from Germany, now a stuffed specimen. The second is fast becoming similar, the only difference being that there is less lattice work on the wings. The youngest has as yet no lattice work on the wings. I do not know the sex of either, but think from the noisy warbling calls they all make they must all be males. I keep them all separate as they are inclined to be pugnacious. They seem healthy vigorous birds, but very nervous, and dash themselves about when the cage is approached.

I sent the oldest bird to the Crystal Palace Show in January, 1904. He was then little more than three months old and did not look so smart as he does now. I was told he looked very ill there. I can only suppose he had been dashing himself about, for he was in the best of health before, and has been so ever since.

The Inheritance of Song in Passerine Birds.*

REMARKS ON THE DEVELOPMENT OF SONG IN THE ROSE-BREASTED GROSBEAK, *Zamelodia ludoviciana* (Linnæus), AND THE MEADOW-LARK, *Sturnella magna* (Linnæus).

By WILLIAM E. D. SCOTT.

I AM tempted to elaborate at some length the life history of two broods of young birds that were raised in May and June, 1903, that definite data may be before the reader and student, as to exactly what has occurred for the past year with the individuals under observation.

On the 7th of June, 1903, I found a nest of Rose-breasted Grosbeaks in a swamp on the Millstone River, near Princeton. At the time of discovery the female was sitting, and presumably brooding new-laid eggs. She was not disturbed, but as I did not know when incubation had commenced, the locality was visited and observations were made at intervals of every other day, until on the 14th of the month I was assured that the young had been hatched. I was not then aware of the number of fledglings composing the brood. It seems worthy of record here that both parents took part in incubation, though the male only assumed such duty for brief periods, when the hen bird went away, probably for exercise and bathing, but not in quest of food. The male constantly fed the female and was solicitous in his care for her.

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* [Reprinted, by permission of the Author, from the American Journal *Science*, N. S., Vol. XIX., No. 495, June 24, 1904.]

On the 14th of the month the young were hatched, and the parents shared the duties of brooding as they had shared the period of incubation. On the 19th of the month, concluding that the young were old enough for the experiment in view, I secured the nest, in which was a brood of three fledglings, and at once had a water-color sketch made of the young in the nest, as a record of their absolute condition, so far as feathering and appearance were concerned. While not able to discriminate with certainty the differentiation in sex, I was reasonably sure from the first that the brood contained two young male birds and one female.

On the 20th another accurate water-color sketch was made to record how these birds had grown and developed, and on the 21st a sketch of one of the birds, a male (for by this time the sexes were easily distinquishable) records his appearance from both a front and a back view.

These birds were carefully hand reared in the nest, which they left on the twenty-first inst., when about seven days old. Grosbeaks of this kind are very precocious, and being admirable climbers, they clamber about long before they are able to fly, on the limbs and tangle of vines which generally surround the nest.

It seems improbable that during the first four days of their lives these birds acquired much appreciation of the song of the male parent, though he was constantly singing close at hand.

The three young birds were successfully reared, and are alive at the present writing. The brood consisted, as I had anticipated from the first, of two males and one female. The birds were kept together for the first six or seven months of their lives, in a large cage, and as I had no other male Grosbeak in my laboratory, it was, of course, quite impossible that they should have learned anything of the method of song of their ancestors, except such impressions as may have beem gathered during the first four days of their lives. All of them went through the regular moult, and assumed by September the characteristic dress of Rose-breasted Grosbeaks at that season of the year. In October the two young males both developed a change in appearance which progressed slowly until near Christmas-time, when they began to appear like adult male Grosbeaks in full spring plumage. I was not a little chagrined that during September and October they showed a disposition to quarrel and harass one another, so that many of the feathers of the tail were broken and ragged, and the birds presented a rather worn and torn plumage. My experience has been that, with most passerine birds, the primary quills and the feathers of the tail are retained for the entire first year without change. I had, however, discovered that young Baltimore Orioles moulted the rectrices during the months of January and February, and was, therefore, prepared for a similar moult in these Grosbeaks, for I find that in very highly colored birds, while the primaries are not moulted during the first year, but attain their brilliancy either by wear or *by direct change in the color of the feather*, the tail feathers of such birds, at least in a number of species, are moulted. Any one who is familiar with the color pattern of the rectrices of adult Baltimore Orioles and Rose-breasted Grosbeaks must be aware that there is a very strongly contrasted area of either black and yellow or black and white on most of the feathers. To emphasize the matter let me say again that Baltimore Orioles and Rose-breasted Grosbeaks both moult their entire set of tail feathers during January and February, and acquire by this moult the distinctive color pattern which is characteristic of the adult bird.

In the case of my Grosbeaks, with this moult of the rectrices they recovered rapidly their fine appearance, and are indistinguishable at the time I am writing from wild representatives of their kind out of doors. Therefore, my apprehension that they might not present a fine appearance was unwarranted, for the reason that I have fully explained.

With the primaries the change seems to be effected, so far as I have observed, in a different way, which I ascribe, as I have said before, partly to wear of the surface of each feather, but, beside this, *I am strongly inclined to the opinion that there is a physical change in the feather itself, which alters its appearance so far as color is concerned.*

The moult was about completed by the 10th of February, but previous to that time I had detected a slight motion of the throat and body, indicating that the two males were beginning to sing. At first it was hardly possible to detect anything but the faintest sounds, but in a week or ten days I could discriminate the song, which I shall describe as nearly as is possible in words. The tone, on the whole, is extremely musical, and has the soft plaintive quality characteristic of the Rose-breasted Grosbeak. It is very melodious, and while the birds have continued to sing daily to the time of this writing, no one would refer the *method* of song to the bird in question. While it is fully as prolonged as the song of the Rose-breasted Grosbeak, as we know the bird out of doors, it has not nearly the volume, and is not so abruptly broken. The notes are low and flute-like and resemble strongly the kind of song one associates with Robins and Thrushes in the autumn or late summer for a short period, after they have completed the moult. I have had a number of competent observers listen to the performances of these birds on many occasions, and all agree with me that the song could not be referred to the Rose-breasted Grosbeak. It is true and entirely possible that later the birds may develop a more characteristic song but inasmuch as the time approaches when wild Rose-breasted Grosbeaks make their advent in this vicinity, coming from their winter homes, I am inclined to believe that these birds have now acquired the song that will characterize them throughout the period of breeding. I may say that I have mated two of the birds, one of the young males and the female, and have secured an older female from another source, with which I have mated the other male bird. I trust that I may be able to report, later, successful efforts in breeding these birds in captivity, and further data concerning the method of song which may obtain amongst them. This finishes my remarks in regard to the Rose-breasted Grosbeaks, and I now propose to give some data in regard to Meadowlarks, obtained about May 25th, 1903.

(To be continued).

The Story of Bird-Death.

By W. Geo. Creswell, M.D. Durh., L.R.C.P., F.Z.S.

(Continued from page 123).

While varying in some particulars in different animals, septicæmia presents certain general phenomena which are found in man and all other animals alike. Before describing the special conditions found in birds, it will be well therefore to give a sketch of the main pathological changes as commonly seen; but if in my description of the disease, either in its general or in its avian aspect, I appear to treat of it too technically and too minutely for a popular treatise, I must beg my readers' forbearance, not only because they cannot know too much on the subject, but also because, when we come to deal with the question of tuberculosis, it will be found that the more fully we have discussed septicæmia, the easier it will be to realize the nature of that lamentable confusion between the two diseases which has been so universal in lay and professional circles alike.

When the specific organisms, to which attention has already been drawn, and which may or may not be accompanied by certain pyogenic or pus forming cocci (streptococci), have gained access to the blood by one or more of the channels open to them, they proceed to multiply therein with great rapidity.* In direct ratio to their varying degree of virulence, and in inverse ratio to the equally variable amount of resistive power they happen to encounter, they also throw out into the blood their chemical toxins or virus. All this together constitutes the septicæmic infection.

The blood vessels then are the field in which these organisms on the one side and the antitoxins or alexines contained in the blood itself on the other side carry on their battle for supremacy. These antitoxins or protective forces have been held—as first definitely advanced by Metchnikoff—to consist in the leucocytes or white corpuscles, on the grounds not only that they appear in increased numbers (leucocytosis) under such conditions, but also that they can be seen to actually take the bacilli into their substance and to destroy them. Hence in this connection they have received the name of phagocytes. Latterly however it has been found that the plasma (or strictly fluid portion) of the lymph and blood itself contains some chemical substance or substances which wage no inconsiderable part in the struggle. "The essential and primary element in the resistance "or immunity of tissue or of an animal against the "growth and multiplication of a microbe is the power "of the tissue juices (plasma, serum, or lymph) to "injure or destroy the microbe by virtue of its "alexines, that then the so altered microbes may be "easily taken up by leucocytes (attracted there) and "further broken up and removed—phagocytosis." *

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* *Bird Notes*. Vol. II. pp. 114 and 153.

Now the septic organisms may be so intensely toxic, or on the other hand the antitoxins of the attacked animal may be so feeble, that fatal results may ensue before the production of any of the secondary local lesions. This no doubt is rare: most frequently we find at any rate some of the effects of the alteration in the characters of the blood. These effects take the form of congestions, and may be seen in the brain and its coverings, in the alimentary canal, and in the solid abdominal viscera, the latter (liver and spleen) often becoming greatly enlarged. The lymph glands are swollen, and their bloodvessels shew the conditions to be presently mentioned in connection with the capillaries generally. The lungs may become

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* Klein. *Micro-organisms and Disease*. New Edition, 1896, page 570.

congested, partly as a direct consequence of the blood changes and partly as a mechanical result of heart failure. Associated with this pneumonia we may also find inflammation of the pleura and of the sac which envelopes the heart (pleurisy and pericarditis). Patches of hæmorrhagic staining are frequently seen beneath the serous and mucous membranes, in the coats of the vessels themselves, and in the tissues generally.

Jaundice is a not infrequent accompaniment, but does not seem to be due to obstruction of the bile ducts, since this is not markedly present. It is considered to be caused by diminished blood pressure, combined perhaps with some slight measure of catarrh in the smaller ducts, leading to the tension in the gall bladder and duct becoming higher than that in the blood vessels, and so causing an absorption of the bile by the blood of the portal (liver) circulation.*

Under the microscope the bacilli can be seen adhering to the lining membrane of the smallest blood vessels (capillaries), and gradually clumping together so as ultimately to form plugs. These at length completely block up the channel, and so give rise to exudations of blood through the walls of the vessels, forming the minute hæmorrhages which have been mentioned. When as a consequence of this obstruction of the capillaries the bacilli contained in the exuded blood have invaded the tissues themselves, they are thereby at once enabled to multiply and to develop their poisonous products even more freely than when they were exposed to the germicidal action of the phagocytes and of the serum of the circulating blood in the blood vessels.

As is only to be expected, it always happens that if the illness is prolonged by reason of the patient's relative power of resistance, he becomes more or less emaciated, and that in any case when death occurs decomposition sets in early and progresses rapidly. The blood becomes rapidly disintegrated, the blood corpuscles breaking up, and the colouring matter being set free. This change in the blood is often found to have been very pronounced before death, as will be presently seen.

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* Green. *Pathology and Morbid Anatomy*. 9th edit. page 66.

I have previously alluded to the danger of mistaking any of the stages of putrefaction for septicæmia. I must again definitely and emphatically warn my readers that taken by itself the fact of even early putrefaction does not warrant a diagnosis of septicæmia in a bird on mere naked eye observation. Even with the aid of a microscope a most careful examination is necessary, combined with an equally careful weighing of all the conditions of the case. And if putrefaction is at all advanced correct diagnosis is impossible.

(*To be continued*).

Reviews.

Birds in their Seasons, by J. A. Owen. George Routledge & Sons, Limited. 2/6 *net.* It is a novel arrangement of the subject to divide the British species into four parts and label them respectively "Birds in Spring," "Birds in Summer," "Birds in Autumn," and "Birds in Winter." We must say, however, that the plan seems to us to have nothing but novelty to recommend it. Mr. Owen is a pleasant writer, and this book forms a very readable, though scrappy, popular handbook of British birds—suitable to put into the hands of a child with a taste for natural history. We are far from meaning to suggest, however, that the book is only adapted for children.

There are twelve coloured plates, each figuring some six or seven species, from drawings by Mr. A. F. Lydon. These do not strike us as being in Mr. Lydon's best manner, and the old-fashioned style of colour-printing in which they are reproduced leaves much to be desired. But, after all, what can be expected for half-a-crown? The work is really a marvel of cheapness.

The following extract will give a better idea of the book than pages of criticism:

"A pretty local name which has been given to the Spotted "Flycatcher (*Muscicapa grisola*) is White Robin, which testifies "to the confiding character of this species. There is scarcely "another bird that has less fear of man. Miller Wallplat is "another old name for it. Coming to us early in May, it "builds its nest in creepers upon our walls, about cottage "porches, and it even has been known to place it on the hinge "of a door through which there was constant passing to and "fro. And often it is built upon a beam in some outbuilding; "and so another nickname bestowed on it is 'Beam-bird.'

"The Spotted Flycatcher nests in our London parks and "larger gardens; but I watch it with most pleasure from a "balcony above a mass of Virginian creeper, whose tiny "flowerets attract the insects by thousands. Just below me "is the nest, built of moss and lichens, lined with wool, and "hair, and feathers. On it the little hen sits closely on her "five eggs, pale green, spotted with reddish brown; and to "her the male bird brings assiduously her insect food. They "rarely fly farther than about two hundred yards from their "nesting place. On a round bed in front of the balcony is a "large boulder of conical shape. On its summit my Fly-"catcher has his constant *coign de vantage:* from it he darts "out on the passing flies and moths, seizing them when on the "the wing, and carrying them promptly to the nest within the "creeper. Not only tiny insects and moths go there, but "also the bodies, denuded of their wings, of many a white "cabbage butterfly, which would otherwise have deposited her "small white eggs on the leaves of the cauliflowers in the "kitchen garden close at hand. These eggs would become "green grubs, which injure the plants and make them unfit "for food. The quick eyes of the bird and his clever flight "put an end to the mischief so far as many a cauliflower is "concerned. Flies, beetles, and aphides in hosts are devoured,

" the last especially during August, when they come in
" myriads from hop-fields or fruit-trees—damsons; and the
" Flycatchers will clear the gooseberry bushes of the hurtful
" sawfly. Macgillivray has recorded that he noted a parent
" bird bring food to the nest five hundred and thirty seven
" times during one day!

" Flycatchers come back to the same nesting-place year
" after year. They may take a little fruit from you in the
" shape of red currants, but this is open to doubt. . . Probably
" the habit of keeping within close range of the nest and the
" active habits of this bird have been the cause of its being
" considered a great thief by the more ignorant among
" gardeners and cottagers. One of these, who was employed at
" Lilford, told his master one day that he had 'a very curious
" pair of birds' near his cottage, such as he had never seen be-
" fore. They took his green peas, and actually had built in an
" old battered hat which he had stuck up on a stick to frighten
" off all thieves. From the description given, and from a sight
" of one of the birds later, the builder was proved to be a Fly-
" catcher, but that it took peas was an absolute fallacy. The
" devourer of peas was, no doubt, a far more knowing and
" wary bird—the Haw-finch."

Superstitions about Animals, by Frank Gibson. The Walter Scott Publishing Company, Ltd. 3/6. Here is to be found a good deal of curious information, interesting, no doubt, to those who are fond of folk-lore and such like, but not appealing specially to the aviculturist as such, though a good half of the "superstitions" appear to be about birds.

Post Mortem Reports.

(*Vide Rules*).

PULLET. (The Hon. M. C. Hawke). Pneumonia was the cause of death.

PHEASANT POULT. (The Hon. M. C. Hawke). This bird died of tracheal and bronchial irritation due to gape worms, of which there was a large number present. Otherwise it was free from any disease.

CANARY. (Mr. North). This bird had been wheezing more or less for twelve months. Chronic bronchitis due to irritation by particles of smoke carbon, accompanied by anæmia and finally by rupture of cerebral vessel.

CORDON BLEU. (Mrs. E. Mellor). A posterior basal meningitis (inflammation of the membrane enclosing the brain and upper part of the spinal cord) was the cause of death.

MANNIKIN. (Mrs. E. Mellor). Septic inflammation of the lungs and air sacs was present. The spleen was much enlarged and contained many septic bacilli.

DIAMOND FINCH. (The Hon. M. C. Hawke). This bird arrived too late for satisfactory examination. Decomposition had set in. It was a male bird, and the beak did not shew the rosy pink colour of the female.

CANARY. (Mr. Picard). This bird was too fat internally, its liver was engorged, and there was a resulting rupture of a large vessel in the brain. The watercress had nothing to do with this.

CANARY. (Rev. R. E. P. Gorringe). Over eating, followed by enlargement of liver and spleen and congestion of brain, was the train of events here. We should be very sparing of either stimulating or oily food in *cages*, where birds get little or no adequate exercise.

CANARY. (Mrs. Butler). There was not a trace of septicæmia in this bird. The lungs were slightly inflamed but all the other organs were quite healthy.

RIBBON FINCH. (Mr. A. Wheeler). Pneumonia of septic origin was the cause of death.

W. GEO. CRESWELL.

Short Notes, and Letters to the Editor.

ST. HELENA SEED-EATERS, GREEN-SINGING FINCHES AND BENGALESE.

SIR,—Having managed to procure a hen for my cock St. Helena Seed-eater, I am anxious to see if I can possibly breed them, so I am writing to ask if you will be good enough to give me some information in that direction, as I have never gone in for breeding before.

Would they be likely to breed in a breeding cage 18 inches by 18 inches, by 20 inches high?

What nesting material should I give them?

At what time of year are they most likely to pair?

I also have some Green-singing Finches and Masked Weavers which are in a cage 48 inches by 24 inches by 48 inches high. Are the former at all likely to breed? The Weavers are busy building, and it is most interesting to watch them.

I have also a pair of Bengalese in a small cage. What kind of nesting material and apparatus ought I to give them, and also at what time of the year ought they to breed?

J. McD.

I do not think the St. Helena Seed-eaters are at all likely to breed in a cage. They appear to have never yet been successfully reared in this country, even in an aviary. They are South African birds, and their natural breeding time is our winter—the time of year when they would be likely to breed in this country would depend upon a variety of circumstances, but most S. African species adapt themselves to our seasons readily, and breed in the summer. My own pair of St. Helena Seed-eaters, which were sent to me from Cape Town last March, have been in my outdoor aviary since the beginning of May, but have shown no inclination to build. Mr. O'Reilly's pair, which were part of the same importation, have nested and hatched, but not reared. The Green-singing Finch has been bred in a small cage, but it is not very ready to nest in captivity, and you would only succeed in breeding it in a cage by a lucky accident. Both these species are nearly allied to the Canary, and of course build an open nest. They would build in an ordinary Canary's nest box, and hay and a common "nest-bag" would suffice for material.

The Bengalese are birds of the Northern Hemisphere and begin to nest in the spring or early summer. They will breed readily in a cage, and require a cocoa-nut husk, or a small box with an opening in one side, for a nesting place. Fine hay is sufficient as material for the nest. H. R. F.

SIR,—My St. Helena Seed-eaters have hatched out twice, but both times have not brought the young up. I have found the young thrown out of the nest, but why they have been so treated I cannot say. The hen has just given up sitting on three eggs after having done so for quite the full time, but I find on examining them that they were not fertile.

A pair of White-throated Finches did just the same, namely, hatched out two young birds and then declined to bring them up, and I found them thrown out of the nest alive. I put them back but found them again thrown out and dead. My only success has been two fine Blossom-headed Parrakeets.

NICHOLAS S. O'REILLY.

BALDNESS IN BULLFINCHES.

SIR,—Will you please tell me through *Bird Notes*, how to cure a Bullfinch of a bald head, also the cause? It is a young cock, just beginning his moult, and is now nearly bald on his head and neck. He is in a roomy cage, cleaned every morning. I feed on canary, millet, rape and a little hemp seed once a day, also plenty of green food.

It may perhaps interest some of our readers to hear that I have reared nine Bullfinches this year, out of which seven have been hens—these I let fly. I have found eight nests, two of which had young ones, just about to fly on September 8th. Is not this very late? E. B.

By the time this appears in print the Bullfinch will probably have grown new feathers on the bald patch. I have frequently observed this peculiarity in this and some other speeies, *viz.* that the cranial feathers are discharged *en masse* instead of in the usual gradual manner. It is not a disease and therefore requires no cure. I have a Virginian Cardinal which always moults after this fashion.

Seven hand-reared Bullfinch hens would have been more valuable than the same number of handreared males.

W. GEO. CRESWELL.

THE NO-EGG SYSTEM FOR CANARIES.

Sir,—Noting Mr. Quin's remarks *re* the above in "Bird Notes," p. 143, and your comment on the same, I beg to say that the controversy originated from a paper I contributed to "Poultry," Vol. I., p. 266, but so abusive and virulent were my detractors that although the late Mr. Comyns suppressed much of what was written by them, I became so disgusted that I allowed the matter to drop, and am glad to find that Drs. Clarke and Creswell have revived it.

I do not think the controversy extended to the "Bazaar," and am sorry I cannot send you cuttings, as I have had the volumes bound.

W. T. Greene.

"TINY" AVIARIES.

Dr. Butler has requested me to mention that he has erected some new aviaries since the last time that I was at his house, and that he claims to now possess larger aviaries than Dr. Creswell. As it happens, Dr. Creswell also has built additional aviaries since I was at Kingston last winter—so it seems to be a case of "as you were."

I feel that I owe an apology to the readers of *Bird Notes* for again referring to this trivial matter, and I hope it will be understood that I do not for one moment consider the size of an aviculturist's aviaries to be any test of his attainments in aviculture.

H. R. F.

Sir,—If it will give Dr. Butler any satisfaction, I will not contradict him if he says his aviaries are ten times the size of mine. Up to now I have ignored this matter, (broached by himself alone), as being quite outside the issue as to whether he is competent to dictate on questions relating to avian medicine and hygiene, or indeed on any question of physiological biology.

W. Geo. Creswell.

THE PROOF OF THE PUDDING.

Sir,—Will you permit me to give my testimony with regard to this burning question of the hour—egg or no egg?—a question that must be of paramount importance to all aviculturists. Being at Kingston recently I took advantage of the occasion to put in practice the old adage, "the proof of the pudding is in the eating," and to see for myself how far Dr. Creswell's excellent exposition of the dangers of egg food, and how well birds can be kept without it, could be verified by the condition of his birds. I therefore paid a visit to his extensive aviaries, which contained, I am bound to say, as fine a lot of birds as I have ever seen, either on the show bench or in the hedge row. Amongst other insectivorous birds I remember noticing Redstarts, Wagtails, and a little beauty of a Whitethroat. Their tameness towards their owner was most striking. On his entering the aviary, and on my withdrawing a few paces, they returned from the distant quarters to which they had retired on my approach, and settled on the perches round him as if the doctor were only a big brother, and then flew on to the food pan he held out to them. Afterwards we found a very large moth which Dr. Creswell introduced to the birds, and then the game began. A Redstart, I think, was the first bird to claim the insect, but was instantly hotly pursued by the Whitethroat; in the rear came the Wagtails, one of which grabbed it from its original captor, only to lose half of the precious morsel a moment after to some other bird. And so on, backwards and forwards through the long aviary, these little birds chased the proud possessor of the largest fragment: the latter sometimes dodging behind the shrubs, thereby running double risk from the Blackbirds and Thrushes that lurked behind these bushes.

In short, my visit left no doubt in my mind that birds can be kept in a state of perfect health without egg food.

I also saw Mr. Dart's aviaries in the same town, where he keeps a large collection of birds, in whose dietary egg has no place. There is a saying, "an ounce of fact outweighs a ton of theory," so I have simply stated what I have seen.

C. H. C. PENGELLEY.

BREEDING RESULTS.

SIR,—It may interest you to know that this year I have again been fortunate enough to breed the Avadavat. The pair built in a cocoa-nut husk, and the young—two in number—are now flying about.

I also have succeeded up to a point in breeding the Grey Singing Finch and the Golden-breasted Waxbill.

The Grey Singing Finches built in a cocoa-nut husk, and had three young ones, but I am sorry to say they only lived a few days.

The Golden-breasted Waxbills also built in a cocoa-nut husk, and have got two young ones nearly ready to fly. I hope next month to be able to tell you that they are flying about and feeding themselves.

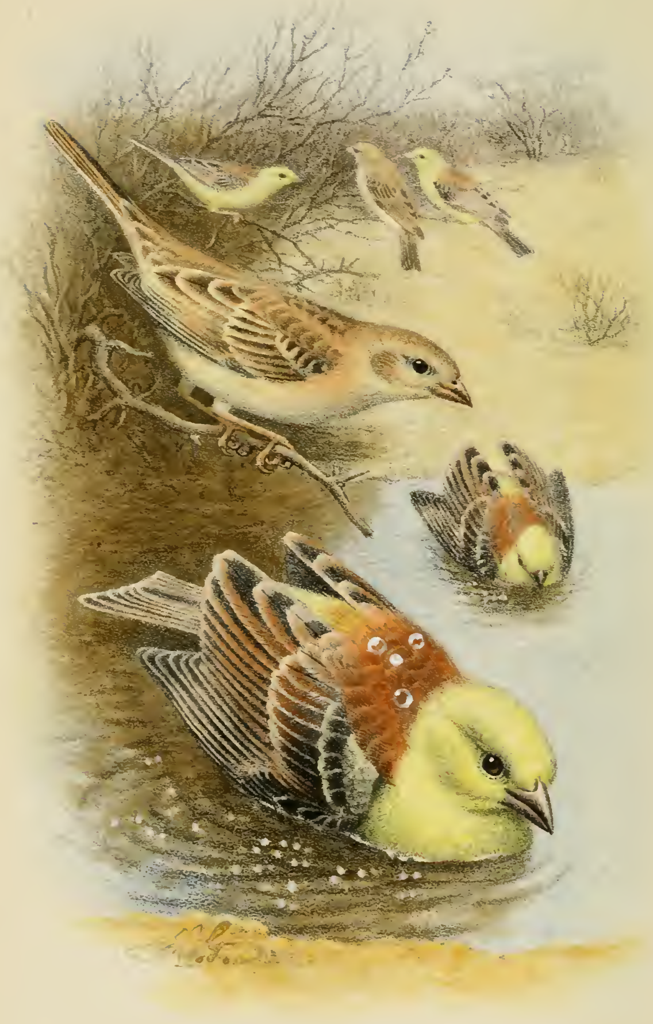
I have also Orange Cheeks that are raising my hopes—they have built in a small travelling cage on the ground, and have got eggs, but I am almost afraid it is too late in the season for success in rearing,

HENRY DART.

THE PIN-TAILED WHYDAH.

I have a male of this species which I bought in the autumn of 1894. It was then apparently a young bird, and its tail was shorter than in subsequent seasons. Each summer since then, until the present year, it has come into perfect plumage—but this year the long tail has failed to grow, although the usual change of colour has taken place in the plumage. The bird is now manifestly aged, and somewhat decrepit, and has probably passed the natural limit of life in the species.

HORATIO R. FILLMER.



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YELLOW SPARROW.
Passer luteus
(male and female.)

The Abyssinian Golden Sparrow.

(*Passer luteus.*)

By W. P. Pycraft, A.L.S., F.Z.S., &c.

It will probably come as a surprise to many of our readers to know that there are no less than twenty-six distinct species of Sparrows! And their surprise would certainly not be lessened when a survey of these species was made, for they would find that by a series of really wonderful gradations (or shall we say phases?) the coloration and pattern of the plumage passes, as we trace the members of the genus *Passer* from one quarter of the globe to another, into types that seem hardly to be connected with the Sparrow plumage such as we know it.

The Abyssinian Golden Sparrow, *Passer luteus*, the subject of our illustration; and the closely allied Arabian Golden Sparrow, *Passer euchlorus*, are instances of the extremes of coloration to which I refer.

The pressure on my time just now prevents my giving, as I should like to give, a survey of the links in this chain of differences. Perchance later some member of the Club may be induced to follow up this matter on the lines I have suggested.

The Abyssinian Golden Sparrow is not confined to Abyssinia as its name seems to imply. Henglin found it in early summer in large flocks along the Blue

Nile, in Kordofan, and Southern Nubia. In June and July he found it in large numbers in Khartoum, where, in September and October, they resorted to the open country in thousands with their young.

On the White Nile, Mr. Witherby found this bird to be quite common. When flying it has, he says, a Linnet-like note, but when perching chirps like a House Sparrow.

The nest of this bird is of an oval form, deeper than wide, composed of dried grass, and placed in the bough of a tree from two to twelve feet from the ground. From three to four eggs are laid, which closely resemble those of our Common House Sparrow.

The Golden Sparrow seems to have a great fondness for the water. The Hon. N. C. Rothschild tells us that enormous flocks were seen by him at Shendi, bathing in the shallow pools of the river.

* * *

As I have kept *Passer luteus* in my bird-room, I venture to supplement Mr. Pycraft's article by a few notes on the species purely from the aviarist's standpoint.

I possessed examples of both male and female, for some time—the male, in fact, for several years. I have heard that these birds are sometimes murderous, but mine were perfectly harmless, though very well able to take care of themselves. They had the common Sparrow habit of turning out the contents of the seed-pan. The male was a rather noisy bird, constantly repeating his monotonous chirp—indeed he would begin to chirp at any time in the evening immediately a light was shewn. No attempt at breeding was made, although the birds appeared remarkably vigorous and healthy. They ultimately both died in fits, the hen a few weeks after the cock.

I understand that the species has recently been bred by an English aviculturist.

I think my cock was an unusually fine specimen, as the yellow in his plumage was as bright and clear as that of a Norwich Canary.

I consider the species attractive and pleasing. H. R. F.

The Water Wagtail.

By the Rev. C. D. FARRAR.

IN politics some men are Radical or Tory under all stress of party weather; so there are aviculturists who hold their own settled views and glory in them, and are not troubled by any chance words of criticism; but for my part, I pride myself upon an open mind, and try to follow the philosophical, sane method of sifting out the wheat from the chaff of men's advice. The result is I wobble; indeed, the result of all philosophical methods would appear to be the same. When therefore I one day read a plaintive lament that little was now written about our English birds, I wobbled—and though so far I had kept nothing but foreigners, I determined incontinent to begin the study of our native species.

In vain my family warned me. Foreign birds were bad enough: what did I want with getting common English ones, that you could see in the garden any day? It was no good; I always was self-willed. As my old nurse once said to me—"There, Sir, you never would listen to reason; it was only your father's cane—the one, you mind, with the horn handle, Sir—that made you change your mind." As my father's cane was no longer handy, I went my own sweet way.

I determined to begin with something very "ornary," as Bret Harte used to say. I selected the Water Wagtail, and the pied variety.

The Wagtail always looks to me as well groomed, cool, and collected as any London dandy. He is almost the only bird I know that really walks with one leg before the other. I think Larks are the only other birds I have ever noticed doing this.

I began with a cock; but mindful of the fact that it is good neither for men nor birds to be alone, I set about to procure him a mate. Marriage is the proper state for birds as well as men As a dear old woman once said to me, "It's such a mortifying o' the flesh as none can beat it."

After some little trouble I lighted on a hen. By English catchers, I find that the hens are little sought after in any species; in fact they are regarded as so much useless lumber, unless specially ordered. The hen Wagtail is fairly good to tell, when you know; as she is much more "sooty" in her colours than the cock, and has not the beautiful silver lacing on the wings which he possesses. She is also a bit thicker in the body than he is. Another very certain way of knowing a hen is to put two together in an aviary, and watch them a few moments. If one displays the sort of nervousness which Sydney Smith felt when he dined with his bishop, and which caused him to crumble his bread—you have a true pair; if the two are cocks you will soon have a battle royal.

My cock had hitherto been rather stand-offish, as we say about here; but with the advent of a lady his disposition seemed to change. I often found myself laughing in a friendly way as I watched the old gentleman. Where were all his boasted coyness and aloofness? Gone at a glance from a hen-bird's eye. It is comforting to find that men are not in all respects more foolish than the beasts.

When the hen first arrived she was very tame; but how could it be otherwise when she was like the convent horse, of which the prior quaintly said "that he could not but be tractable in respect that he draweth much of our winter firewood—*and eateth no corn*." I do not know what my hen had lived on before she came to me, but whatever it was I do not think she would have lived on it much longer. A man could, at a pinch, live on bits of old shoe leather, but it is hardly a wholesome diet, or one conducive to good days and length of life. On the same principle, a bird may exist on pea-meal, but, like Jacob, few and evil will be the days of his pilgrimage and he will not attain to the age of his fathers.

I at once prescribed a diet of maggots—"quantum sufficit," as the doctors say on their medicine bottles. This is rather a tall order, by the way, as a Wagtail's appetite is "that hearty!" Still, when I find a poor half-starved bird I do not like to stint him, but, for a time at any rate, let him eat his fill; just as they allow little boys, apprenticed to pastry cooks, to stuff down as many jam tarts as they like at first. In that case there soon comes plethora. With the Wagtail, I fear the appetite for maggots "grows," as Shakspeare hath it, "with that it feeds on."

Though very nice in their persons, and not liking to come in contact with anything impure, they do enjoy the indirect benefit that sometimes comes from it.

I once tried to breed maggots at home, to encourage "home industries." It did not work at all. In the same way, when a boy, I used to keep white mice. I simply adored them. The rest of the family alluded to my adored ones in no measured language and in the rudest way as "stinking little beasts." I went so far as to sprinkle them with eau de Cologne. Even this did not satisfy. They could stand one odour, they told me, but both together were out of all reason. Alas, it was the same with "home-fed" maggots of a later day. The sanitary inspector threatened to indict me as a nuisance, and so reluctantly put me to the expense of buying instead of growing.

It is very pretty to see how the little hen flies down to meet me each morning as I go in with a handful of maggots. The moment I throw them down she is there, quick as a flash and away, while the cock sits on a neighbouring bough and uses language only suited to a three-bottle buck of the old school, but their "fratchings" are of no greater moment than gnat bites on a summer's evening.

If there is one word to describe the Wagtail it is "daintiness." I never look at them without thinking of what the poet Samuel Rogers said of Lady Parker. "She is so elegant that when she goes to heaven she will find no difference, but that her ankles are thinner than the angels', and her head better dressed"; or of what another friend in South Africa recently wrote to me about a lady of color who had donned the garments of civilization, including black stockings with open-work sides—these she lined with *red calico*, and, as my friend remarked, "she didn't forget to hold her skirts up neither!" Well, the little Wagtail always reminds me of a lady running very swiftly over a muddy crossing, and holding her skirts well up.

My Wagtails spend most of their time on the ground, though they do perch, and generally roost on a branch at night, but most of all do they love water, as their name implies, and mine are never so happy as when they are running about their little lake, and jumping up from time to time to snap a gnat that has incautiously come too near.

I quite hope another year, if all goes well, to be able to record the successful nesting of the Water Wagtail. The chance of doing something exciting is what I never have strength of mind to resist.

A friend came the other day to see the birds, and when he beheld the Wagtails he exclaimed scornfully "What the hangment are you keeping common Wagtails for? I call it a beastly shame." "Well," I said, "we can't all keep rarities, and besides," I added, rather spitefully I am afraid, "perhaps you couldn't keep even Wagtails. It is not so easy as it looks. It is a parlous thing to depreciate the worth of common things. When we find ourselves among the lords and ladies, we cannot be expected to retain all our former veneration for the squire and the clergyman."

If only I do succeed in breeding them next year, I shall be like Virgil's delightful old garden lover, of whom he says, "He equalled in his contented mind the wealth of kings."

And now I think I had better draw to a close, for I once saw an author described as one who keeps awake in the small hours in order to procure sleep for others; and was it not the late Montague Williams who gave it as his opinion that the longer a policeman had been in the force the less you could believe him? Mutatis mutandis, some of you will be saying the same unless I pull up.

How I feed my Birds.

By W. Geo. Creswell, M.D., F.Z.S.

THIS paper is not intended to be a treatise on foods, nor yet an exposition of those principles of physiological chemistry which should guide us in the feeding of our birds. I had indeed intended to remain silent on these matters until I was prepared to deal with the subject with that fulness of detail which is necessary to the treatment of so wide a question, but since I get frequent enquiries as to substitutes for egg food, it may be well to state briefly what the food of my birds consists of, leaving all scientific considerations to a future occasion.

First of all I may say that when I tell a patient that whiskey is the chief cause of his troubles I am generally asked to recommend a substitute for it, in the hope of course that I shall suggest gin or port.

Sometimes a new patient will tell me that, in deference to the directions of a former medical adviser, he has left off "alcohol," but on cross-examination he almost invariably pleads guilty to Claret or Burgundy.

Now just as these substitutes for whiskey are practically the same thing under another name, so any substitute for egg would be, in at least a chemical aspect, and in its effects on the digestive organs, just as bad as the egg itself. Therefore in the one case as in the other the answer is the same:—no substitute is either required or admissible from a physiological point of view; simply do away with what is doing harm, and turn a deaf ear to those who would persuade to the contrary, however plausible their pretensions to argument may appear.

Simplicity in all matters connected with bird keeping has for long seemed to me to be the correct key note, and one of the strongest reasons for my own attitude has been that of the experts themselves. Their multiplicity of directions, and the widely divergent terms of their various *obiter dicta*, were in themselves sufficient to arouse distrust in my mind; and when I came to reflect on the extravagant errors they were (and are) guilty of in matters that I *did* know something of, then my distrust of their opinions in other directions gradually became more and more pronounced. This led to enquiry: enquiry confirmed my distrust and resulted in the abandonment of their complicated methods and the consequent feeding of my birds on the simplest possible lines. These lines of course at that time embraced the use of egg food. The very universality of its use (in at least this country) misled me, until I had the good fortune to become aware of its special power for harm.* I then merely left it out of my dietary table, and I can see, like others who have done the same, that the sickness and death rate has since diminished.

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* Clarke. *The Bird Plague, or Septic Fever.* 1898.

As staple food, always supplied in the hoppers, the seed eating birds in my aviaries get canary seed, white or brown millet, and brown rape seed. As intermittent diet they get oats, hemp, black rape, sunflower, inga, linseed, teazle—in fact any seed or mixture of seeds that comes to hand, whether it is Anathema or not. For instance, if I come across a spray of dock-seed, or a thistle-head, or a handful of grass-seed, or indeed any wild or garden seed that I do not absolutely know to be poisonous, into the aviary it goes. In the way of green stuff and fruit I am equally catholic: lettuce, groundsel, chickweed, grass, plantain, rose leaves, dock, nasturtium leaves and flowers, mustard and cress, apple shoots, or indeed any handful of weeds pulled out of the garden, and any kind of fruit that is handy, all are given just as occasion serves. Even the Mountain Ash berries (falsely credited with being poisonous to captive birds on the score of two *newly imported* Pine Grosbeaks having died in fits soon after eating them) are used with advantage when I can get hold of them.

When moulting and breeding the hard bills also have a dish of my insectile food, and whenever I give the insectivorous birds any mealworms or gentles a few are thrown in to these as well.

In days gone by I used to find the keeping of insectivorous birds more irksome as regards their feeding than that of the seed eaters. Now that is all changed, and with my present method they are quite as easy to feed as the others. From Thrushes down to what are called the "delicate" species they all have the same food. This is composed of—roughly speaking—about equal parts *by weight* of crushed biscuit (generally unsweetened), dried water bugs, and dried ant cocoons. * These are well mixed and kept in a dry place in a wooden box. The portion for the day's use is given in an enamelled dish, *slightly* moistened with water. This moistening with water I have adopted tentatively, pending a complete elucidation of certain difficulties. It may be that I shall continue to adhere to it for aviary birds, but in the case of birds that are kept in cages I prefer on all grounds to give it dry. A Whitethroat, which I had to isolate in order that he might get a new suit of clothes after a series of encounters with an aggressive Flycatcher and an equally quarrelsome Titlark, has done remarkably well on it without any moistening; and this by the way is the method adopted from time immemorial by the Chinese aviculturists, who according to Mr. F. Finn, have nothing much to learn in these matters.

In addition to the insectile food there is always provided a hopper of either canary or millet seed. Many insectivorous birds, e.g. the Liothrix and the Hedge Sparrow, by no means neglect the use of hard graminaceous foods.

Gentles and mealworms are given freely when I have them. Both are valuable articles of diet, though for some unaccountable reason the latter are credited with giving sore feet!

The reasons against their use adduced by various people do not hold good when critically examined: but here I will content myself with quoting two bird keepers of great experience. In the *Avicultural Magazine*, Vol. VII., page 194, the Rev. C. D. Farrar says:—" Guide books tell us that mealworms are too stimulating. . . . . . I have had a fairly large experience and no mean measure of success, and I say without hesitation that I owe it all to disregarding such advice and following the teaching of Nature." In *Bird Notes*, Vol. I., page 169 we also find the following, "Three Nightingales, meated off last year, ate 1,500 in ten days . . . . all made fine birds." Thus Mr. Frostick.

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* There is another insectile article of food which may be used with advantage, in place of the ant cocoons, viz., the dried pupæ of the silkworm moth.—W. G. C.

House flies, caught in a wire gauze trap and killed by being put into the oven for half a minute, are given when available and are always greedily eaten. If a live fly of any kind gets into the aviary it is of course only a brief life that is then its portion, but bees and wasps are left severely alone. Yet if any of these are thrown in when killed there is always a scramble for them, the Pekins being especially eager. Mr. North, when visiting me one day, was greatly surprised to see this, because he once saw a Bullfinch stung to death by a living wasp.

Among the delicacies affected by my feathered friends are the various spiders, regarding which there is a hoary tradition that they are a valuable "medicine" for bird diseases—notably "consumption," and even that marvellous tale does not exhaust their wonderful virtues. One of our experts, who plumes himself on being a scientific man, tells us that "Spiders are not insects, but they represent concentrated essence of insects; therefore if you give two or three spiders in a day it is equivalent to much true insect food." This is very remarkable. Why not import an aged Bengal tiger, and slowly grind out the holocausts of its countless victims to supply our starving poor with meat? Why burden armies with long trains of costly transport when half-a-dozen patriarchs selected from the Zoo would furnish unlimited supplies of concentrated essence of nuts and buns? What need of fiscal campaigns and royal commissions, when, thanks to this physiological discovery, the whole thing thus lies in a nutshell?

But I am forgetting my errand :—As regards fruit, apples, pears, mulberries, oranges, and in a less degree bananas, are all much enjoyed by the soft bills. The best way to give them is to drive some wire nails through a board so that they project about an inch the other side. Then if the board is turned up the fruit can be impaled on the nails and so kept clean while being eaten.

To sum up :—On the above simple scheme of dietary *all* my birds have come through their moult in a way which leaves nothing to be desired, and which has elicited the expressed admiration and approval of more than one connoisseur in avicultural matters.

All forms of yelk of egg, whether fresh or preserved, are equally powerful in intensifying the virulence of the germs of septic diseases. White of egg is also a powerful agent in the same direction, but not to such an extent as the yelk.

The results obtained by leaving off the use of this material are but another instance of the difference so often found between the old and the new :—that while the so-called experience of the old school does not stand the test of scientific examination, *that which science teaches to be right does bear the test of practical experience.*

Bird Notes from the Gambia.

By E. Hopkinson, D.S.O., M.A., M.B.

(*Continued from page* 126).

KINGFISHERS. Of these we have many species, which may be arranged in two groups, (1) the Pied, and (2) the Blue Kingfishers. Of the first we have two representatives, *Ceryle rudis* and *C. maxima*, black and white birds, which only differ from each other in size. They are essentially "Fishers," which all up the river from its very mouth may be seen, sometimes sitting on a post sticking out of the water or on an overhanging branch, sometimes hovering in the air, motionless except for their quickly quivering wings, and thence diving repeatedly with a splash right into the water, whence they return almost instantly with an unfortunate fish wriggling in their beaks, which has been espied from above and caught by a headlong plunge almost too rapid to follow with the eye. In the second group I am very hazy as to the identity of the different species, several of which are of exquisite beauty. One, a very common bird, which is called here the "Mangrove Kingfisher," is about twice the size of the European Kingfisher, and has blue upper, greyish brown lower, parts and a long red beak; another is about the same size, but has a grey head and whitish underparts, the remainder of the plumage being blue with a patch of chestnut at the vent, and this I take to be *Halcyon semicæruleus*. Both of these are commonly seen sitting motionless, on the watch for passing fish, just above the water among the thick mangrove growth, which borders the banks for a long way up the river.

A third species, slightly larger than our bird, I have only seen away from the river, apparently on the look out for insects and other creeping things of the bush; while the fourth species I know is a perfect little gem, about the size of a Tomtit, brilliant blue above and reddish below, and with a very distinct peacock-blue crest (*Corythornis cyanostigma*).

The TURACOES are represented by two, if not three, species, the first of which is the Variegated Turaco (*Schizorhis africana*). These are common everywhere, and are dull-coloured brown and white birds, which present a great contrast to our second species, the Violaceous Turaco or Plantain-eater (*Musophaga violacea*), with its metallic blue or purple plumage and crimson remiges. The latter are more local in distribution than the former, but are fairly common in the haunts which suit them, namely the thick forest which fringes the upper part of the river, and among the belts of dense bush along many of the creeks and swamps, where they are generally found in small parties of six or more. Beside these, I believe there is also a third species, a representative of another genus (*Turacus*), which is a green-plumaged bird rather smaller than the Violaceous Turaco, but in this country I have so far never seen one alive or dead, though it is by no means uncommon in zoological collections at home, and there was at least one example exhibited at a recent Crystal Palace Show, if I remember aright.

The Variegated Turaco is a slow-flying bird, which spends its time and gets most of its food among the upper branches of trees, flying with undulating flight from tree to tree, and being most active at morning and evening, but dozing through the heat of the day near the top of some thickly-foliaged tree. Its note, which is commonly uttered on the wing, consists of the syllables "Kow kow," which is also its Mandingo name. They are generally seen in pairs or in small parties of several pairs together, (the latter especially during the rains), and apparently remain paired throughout the year, and I think keep to the same nest, a flat structure of sticks in the fork of a tall tree, from season to season, merely adding to and repairing it when necessary. At the commencement of the breeding season (May) the courtship of a pair is a common evening sight: the couple are perched on the highest branches of some bare tree, preening and fondling each other; suddenly the cock takes a short vertical flight upwards and hovers, (looking when in the air exactly like one of those Chinese bird-kites, which we used to play with), over his mate, who sits with outspread wings and tail and upturned head gazing up at him, till he suddenly drops with closed wings on to the branch close beside her to continue his caresses, and then after a short interval to repeat the performance again and again, till the sudden darkness of the tropics comes down, or some disturbing incident interrupts the lovemaking.

CUCKOOS. Gambia has representatives of at least four genera: (1) *Centropus*, the Coucals; (2) *Coccystes*, the Spotted Cuckoos; (3) *Cuculus*, the typical Cuckoos; and (4) *Chrysococcyx*, the Golden Cuckoos.

(1) Our Coucal is *Centropus senegalensis*, a large brown-winged bird about the size of a Jay, with black head and throat and pale buff underparts. Its legs are strong and its toes, especially the hind one, long and powerful, as befits a bird which spends the greater part of its time on the ground. They are found everywhere, perhaps in greater numbers in the dry swamps than elsewhere, flapping slowly among the bushes or running about the ground, and are so tame and careless of man that they have gained the name of "Foolish Bird," from the idiotic way they have of offering themselves as targets at the closest range to any one out with a gun. Their food consists of lizards, small frogs and large insects. One I had

in a cage began to eat locusts an hour or two after its capture, and in a few days took to raw meat and chicken lights, on which it was thriving well, when it unfortunately escaped. As this bird was caught in my kitchen, which I suppose he entered to pick up scraps, it is probable that all of these birds eat a certain amount of offal and dead animals, in addition to their ordinary diet of live food.

(2) Of the genus *Coccystes* we possess one species, *C. glandarius*, the Great Spotted Cuckoo, a crested bird rather smaller than the Coucal, greyish-brown to dark brown above with white underparts and wing markings. It is essentially arboreal in its haunts, and in this country is, I think, only a winter visitor, at any rate I have seen it only during those months. Its chief food seems to consist of large insects, though according to the natives, the "Saling," as they call it, also kills and eats Doves, but this one can hardly credit, though no doubt young birds are often included in its menu. Its note is a harsh "kark-kark."

(3) We have about four species of the genus *Cuculus* but only one is really common, namely *C. gularis*, the Lineated Cuckoo, a bird very like the European Cuckoo, from which it differs only in its slightly larger size and in the markings of the outer tail-feathers, which in *C. gularis* are completely barred with white, while in *C. canorus* this barring is incomplete. Its note is exactly like that of our bird, as are also its habits. Other Gambian species are *C. cafer*, Levaillant's Cuckoo, an inhabitant of nearly the whole of Africa, *C. clamosus*, the Black Cuckoo, and possibly also *C. canorus*, as a winter visitor only.

(4) The beautiful Golden Cuckoos are represented here by two species, both rather rare, *Chrysococcyx smaragdineus*, the Emerald Cuckoo, and *C. cupreus*, the Gilded Cuckoo. Of the former the cock is a

lovely emerald-green bird with a yellow breast and white wing-bars, while the hen is green mottled with brown and bronze above and whitish below: in the latter, the Gilded Cuckoo, the sexes are alike, coppery green flecked with white above, and whitish with coppery bars below. They are usually seen in pairs, and like to perch on tall trees, where the cocks continually utter their loud whistling calls, and whence they hawk after passing insects. They make no nest but resemble the Common Cuckoo in their parasitism on smaller birds.

We have one species of HONEYGUIDE, *Indicator indicator*, a brownish bird with a yellow shoulder patch, which I must not omit, though I do not think I have ever seen it.

(To be continued).

The Inheritance of Song in Passerine Birds.*

REMARKS ON THE DEVELOPMENT OF SONG IN THE ROSE-BREASTED GROSBEAK, *Zamelodia ludoviciana* (Linnæus), AND THE MEADOW-LARK, *Sturnella magna* (Linnæus).

By WILLIAM E. D. SCOTT.

(*Continued from page* 156).

I shall speak of the Meadowlarks in a much more general way than of the Grosbeaks, as I have been unable to watch them as closely, for they have not been caged, but have been at large, first in a room by themselves until February, and later associated in another room with a number of Meadowlarks that had been reared in previous years. I particularly wish to refer to one of the birds, a male which has arrested the attention of all observers.

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* [Reprinted, by permission of the Author, from the American Journal *Science*, N. S., Vol. XIX., No. 495, June 24, 1904.]

In the same room with these Larks there are three Blackbirds, *Merula merula* (Linnæus), which I procured from Germany. All of these birds are males, and they sing chiefly late in the afternoon, but much more frequently during the night, especially when there is moonlight. Early in February I heard constantly what I supposed was the song of one of these Blackbirds. The curious part of it was that only one measure of the song was produced, a silvery whistling sequence of five or six notes rather longer drawn out, and given with much precision. For several weeks I ascribed this to one of the Blackbirds, and believed that because of the shelter afforded them by many evergreen trees in my bird room that it could only be this bird, though I was unable to see the singer while hearing the song. My friend, Mr. Horsfall, who was with me during all the time, checked my observations, but we neither of us were able to *locate* the songster.

One of my Meadowlarks of the brood mentioned attracted our attention by his behaviour and deportment during the early part of April. In addition to his song, which was quite dissimilar to that of a wild Meadowlark, he accompanied the performance by what I should call a parade or dance, analogous to the strut of the Turkey-cock. It is so marked a characteristic of this and other individuals of the same species that I determined to have it recorded in a color sketch, and for two or three days Mr. Horsfall and I spent much time in getting the position and manner of the bird while occupied in this kind of behaviour. The bird sang frequently while going through the manœuvre described, and both of us finally saw and heard him many times sing, preparatory to or after his own song, the cadence described, which I had referred, before I saw the Meadowlark do it, to the European Blackbird.

While I am fully aware that under the artificial conditions of confinement birds are extremely likely to acquire abnormal songs, I cannot but feel that the knowledge of the methods of song which has come to me while watching birds under these conditions, indicate a receptivity which to some extent undoubtedly obtains in their lives out of doors. My conclusion is that birds are influenced in their early lives very strongly by any noise that arrests their attention, even in a wild state, and that this propensity to imitate and differentiate their normal methods of song is greatly exaggerated under the artificial state wherein they live when in confinement.

(*To be continued*).

Review.

Field Book of Wild Birds and their Music. A Description of the character and music of birds, intended to assist in the identification of species common in the Eastern United States. By F. Schuyler Mathews. G. P. Putman's Sons. Price 7/6 *net.*

This is an attempt to express the song of birds in musical notation. Until we saw the book we understood that to be an impossibiiity—but as we are hopelessly unmusical we will not venture to express any opinion upon the matter. It would seem that Mr. Mathews has expended much labour and care upon the subject, and he deserves to have succeeded—but whether he has done so we cannot say.

Apart altogether from the musical question, the work forms a useful handbook to the birds of the Eastern States. There are a number of illustrations, nearly all in colour, which will be found valuable for the purpose of identification of species, but are neither artistic nor minutely accurate.

We should be glad if some musician would give the readers of "Bird Notes" his opinion on the book.

The L. & P. O. S. Autumn Show of 1904.

The entries this year in the foreign classes were very disappointing in spite of the improved classification. Last year, with rather a doubtful classification, there were 106 entries in the foreign classes—this year only 87.

Class 63. *Budgerigars and Love Birds.* First, Mrs. Cooper's Budgerigars. Second, Mr. H. B. Smith's Peach-faced Love Birds. Third, Mr. Philpot's Red-faced Love Birds. Fourth, Mr. Thorne's pair of Budgerigars. We should have reversed the first and second awards.

Class 64. *Parrakeets &c.* First, Mr. Hawkins' Varied Lorikeet (well worthy of the position). Second, Mr. Seth-Smith's uncommon Red-bellied Conure. Third, Mrs. Cooper's Redrump-Rosella hybrid (a hybrid not being a "species" this, and other hybrids in the foreign classes, were strictly ineligible). Fourth, Mrs. Cooper's Parrakeet, of a species which we failed to identify, but which we have since been informed is *Pionopsittacus pileatus.**

Class 65. *Grey Parrots and Amazons.* First, Mrs. Hecker's fine pair of Greys. Second, Mrs. Gleaves' Grey. Third, Mr. Goldsmith's Grey. Fourth, Mrs. Cooper's Grey.

Class 66. *Macaws and Cockatoos.* (Cancelled).

Class 67. *Whydahs and Weavers.* First, Mr. Townsend's Weaver (which we take to be *Hyphantornis capensis*), in good condition, but a trifle wild. Second, Mrs. Skey's Orange Bishop, in good colour but rather rough. Third, Mr. Smith's Rufous-necked Weaver, decidedly bald, and lucky to have got in the money. Fourth, Mr. Crocket's Paradise Whydah, not looking well. A poor class, containing many cripples.

Class 68. *Common named species of small seed-eaters.* First, Mr. Picard's Diamond Finch, a very good bird. Second, Miss T. Saywell's St. Helena Waxbills in beautiful condition. Third, Mrs. Cooper's Green Avadavats. Fourth, Mr. Townsend's Golden-breasted Waxbills. Not a good class.

Class 69. *All species of Finches &c.* This was an excellent class of 23 entries. First, Mr. Hawkins' Red-faced Finch. Second, Mr. Peir's very rare Yellow-rumped Finch (*Munia*

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* This bird, however, was a short-tailed Parrot, not a Parrakeet, and should therefore have been "wrong-classed."

flaviprymna)—should have been first, but the judge probably, and most excusably, took it for a hybrid. Third, Mr. Townsend's Long-tailed Grassfinches, a good pair. Fourth, two of Mr. Hawkins' Bicheno-Zebra hybrids. Mr. Hawkins' Cuba Finches received an extra fourth, the hen not quite through the moult or they would have been higher.

Class 70. *Tanagers &c.* First, Mr. Townsend's female *Dacnis cayana.* Second, Mr. Hawkins' male of the same species. Third, Mr. Townsend's Silver and Blue Tanager; a very rare bird. Fourth, Mr. Townsend's White-capped Tanager; an old prize-winner.

Class 71. *All other species.* First, Mr. Humphry's most charming Rufous-bellied Niltava, apparently as well and beautiful as ever. Second, Mr. Townsend's Andaman Starling. Third, Mr. H. B. Smith's Purple-headed Glossy Starling. Fourth, Miss Hopwood's Rosy Pastor.

Post Mortem Reports.

(*Vide Rules*).

GOLD-BREASTED WAXBILL nestlings, two. (Mr. Dart). These little birds, which were on the point of leaving the nest, were well nourished, and their little crops etc. were full of millet in various stages of normal digestion. All the internal organs were healthy, except the lungs, which were the seat of pneumonia.

BUDGERIGAR. (Mrs. Leslie Miller). Fibroid induration of the left lung was the cause of death. This condition was the result of chronic pneumonia.

PHEASANT. (The Hon. M. C. Hawke) This bird was sent by rail, and was unsuitable for examination.

BRONZE MANNIKIN. (Mrs. E. Mellor). Egg binding was the cause of death, there being a large soft-shelled egg in the cloaca, and others in various stages of development. The practice of not giving these birds green food is wrong. It is as necessary in their case as in that of other birds.

CORDON BLEU nestlings, two. (Mr. Dart). These little birds, which were just on flying, got out of their nest and were replaced in what was evidently the wrong nest. The next day they were found dead. On external examination I found they had been badly plucked on the head and back. Internally, the organs were all healthy, the tissues firm and well nourished, but the alimentary tract in both was quite empty. They had died of acute or rapid starvation.

PINTAIL WHYDAH. (Mr. Fillmer). Not in a fit state for examination.

BUDGERIGAR. (Mr. Slatter). Pneumonia of both lungs.

ZOSTEROPS. (Mr. Mackie). The liver and spleen were much engorged and the lungs were inflamed

REDRUMPS (2) and BUDGERIGAR. (Mr. Mathias). These birds were found dead after a cold night, but there having been considerable delay in sending the bodies, they were not suitable for examination, being in a state of putridity.

CANARY. (Mr. North). This bird, sent for operation, was hopelessly ill and would not have survived. It was therefore killed. The tumour of the neck, which was cystic, was filled with a cheesy mass. This appeared to the naked eye to be sebaceous, but did not shew any cholesterine. On further examination it was found to be simply a swarming mass of septic bacilli. There were the usual signs of old septicæmia in the spleen.

CANARY. (Mr. Picard). This was a very interesting case of a disease which I have occasionally found in birds, caused by a bacillus scarcely distinguishable (morphologically) from the bacillus of leprosy as found in man. It had been ill a long time, the final condition being a kind of pneumonia. Some months ago I had a series of cases of this disease from a gentleman in the West of England. I shall be glad if Mr. Picard will send me any other birds, while still alive, which he may have at any time in apparently the same condition. (The non-moulting was not a cause, but an effect of the disease).

MEADOW PIPIT. (W. Geo. Creswell). On October 30 this bird had its skull bashed in by a vicious hen Blackbird which had unfortunately been introduced to the aviary a few days before. I took the opportunity to examine the internal organs with a view of seeing the real and ultimate effect of my method of feeding. The bird was plump and well nourished, there was no deposition of unhealthy fat, and the organs and tissues generally were all in a condition of perfect health.

WHITETHROAT. (W. Geo. Creswell). This bird met with the same fate as the Titlark before the murderer was identified. Its internal condition was precisely the same. And yet we are still being told that no food is good which does not contain egg.

W. GEO. CRESWELL.

Short Notes, and Letters to the Editor.

DR. GREENE AND THE NO-EGG SYSTEM.

SIR,—Mr. S. Laing it is, I believe, who has laid it down that "what the greatest thinkers think to-day, the company of thinkers will think to-morrow; and what the company of thinkers think to-morrow, the great army of non-thinkers will accept as a fact the day after."

Dr. Greene, as the pioneer of twenty years ago, has lived to see his thinking thought by the company of thinkers of to-day—represented by the majority of the members of the Foreign Bird Club. He has lived to see the crystalization of his thinking firmly set by the aid of scientific knowledge and methods not within his grasp at the time he did his original thinking.

An the time is coming when the great army of non-thinkers will follow the natural laws, and will emancipate themselves from the trammels of blind adherence to conventionalities, thus accepting as facts what had previously been set out and proved by the thinkers. In a few years time the guerilla warfare of the "experts" against scientific truths will have ceased; their feeble tactics of misrepresentation in all its numerous phases will have been forgotten; and their places will have been taken by a younger and fresher generation.

Dr. Greene and many others of us have lived long enough to see this happen in other places. It will happen with us.

W. GEO. CRESWELL.

THE FIREFINCHES.

SIR,—Perhaps I may be permitted to add a few remarks to Mr. Pycraft's notes on Firefinches, which accompanied Mr. Goodchild's life-like plate of the Vinacious Firefinch in the September number of "Bird Notes."

From an avicultural point of view the genus *Lagonosticta*, as constituted in the British Museum Catalogue, can be certainly divided into three groups with distinct affinities of their own:

1. To include *L. niveiguttata* (and any close allies it may have), which from its general appearance and habits is, I should think, more nearly related to the Aurora Finches (*Pytelia*) than to its neighbours in the Catalogue.
2. The typical Firefinches. *L. senegala*, *rubricata*, *rufo-*

picta, and allied species from various parts of Africa, which are all alike in their food, habits, and requirements in captivity.

3. The Lavender Finches, Vinacious Firefinches etc., whose manners in captivity and whose habits in freedom place them in a group by themselves, a group markedly distinct from that which includes the typical Firefinches.

E. HOPKINSON.

REARING BRITISH BIRDS UNDER CANARIES.

SIR,—I have noted in the fancy papers recently a controversy on the rearing of British birds from eggs taken from the nests of wild birds and placed under Canaries.

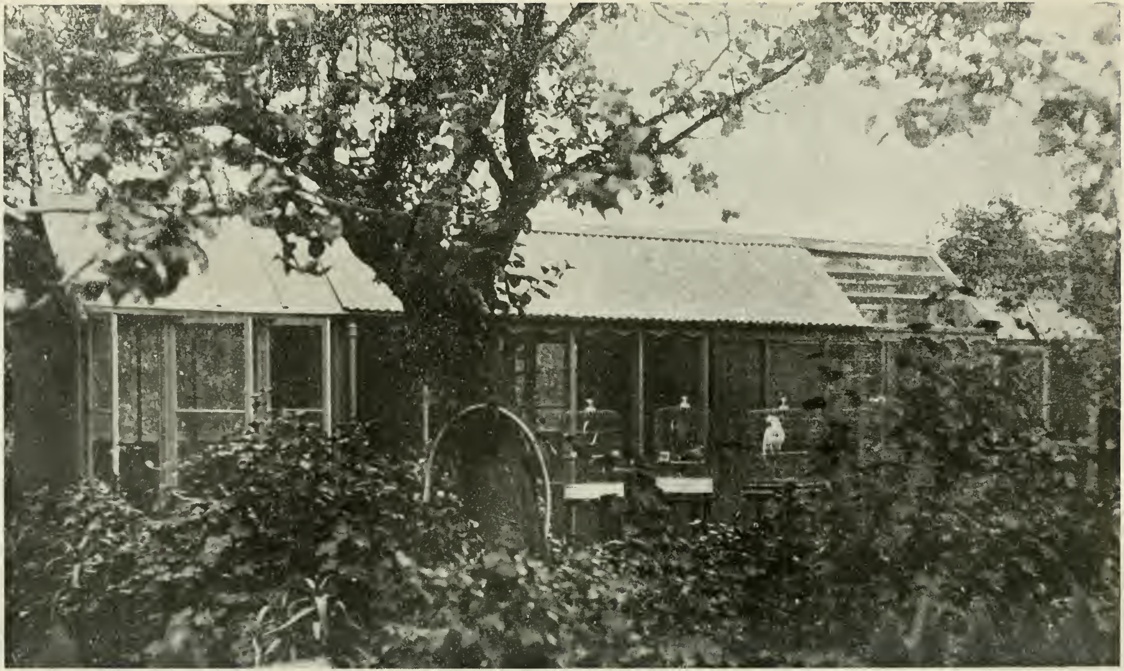
In May 1902 I took from nests in my garden two Greenfinch's eggs and one of another species, probably a Chaffinch, and placed them under a Canary hen in one of my outdoor aviaries—the two Greenfinch's eggs under one Canary which had laid two eggs, which I removed, and the other egg under another Canary which had laid three eggs and was sitting.

As near as I can recollect, the Greenfinches hatched in about five days, and the Chaffinch in about eight days.

The young birds were all three reared on seed entirely, and I had them until they were ten weeks old, when unfortunately my aviary was broken into and most of my birds stolen during the night. The aviary contained about a dozen hen Canaries, a few British cock finches, and about twenty foreign birds.

The seeds at their disposal were canary, hemp, rape, white millet, inga, and white oats.

LEONARD W. HORTON.



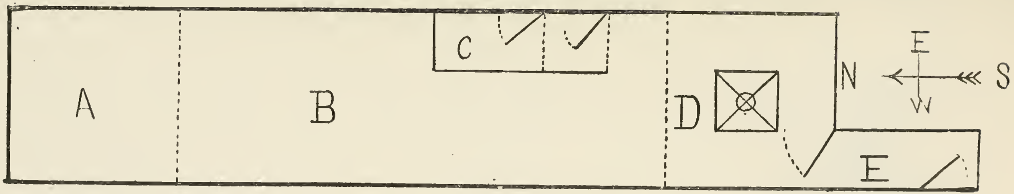
MRS. ANNINGSON'S AVIARY.

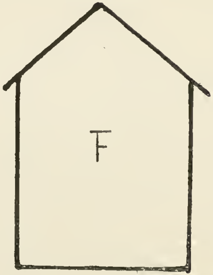
Mrs. Anningson's Aviary.

I HAVE the pleasure to send you for publication in "Bird Notes" a photograph of my aviary taken by my friend, Mr. A. G. Swannell, of Cambridge, with the following description. The building was erected from my own design by Mr. G. W. Lambert, of Darby Street, Cambridge. The wooden frame of the aviary rests on a bed of concrete twelve inches thick, of which six inches are above the ground level, and consists of stout framed stud work and one inch grooved and tongued match-boarding. The full length of the aviary is thirty-four feet, its width six feet, and its height to the eaves seven feet. The length is divided into three parts: the first part at the north end is six feet square superficial and forms the sleeping chamber: it is close boarded on the north and east sides; on the west side are glazed and framed and hinged shutters opening outwards; inside the shutters the space is protected by half-inch wire netting, on the south side it is separated from the second part by stout glazed shutters and fine wire, all made to open. The second part, which constitutes a covered flight, is seventeen feet long and six feet wide, and is closed in on the east side by boarding of the same character as that of the sleeping place and continuous with it; the west front consists of half inch wire netting and glazed shutters made to open and hung to upright jambs; this chamber is separated from the third part on the south by a movable wooden partition. Within this second chamber, against its east wall, is a sort of inner aviary six feet by two feet superficial, which is also constructed of wire and glazed shutters ; it has a window in the east wall four feet by three feet made to open outwards and protected by wire netting ; this inner chamber is intended for small Finches. The roof of the sleeping chamber and covered flight is constructed of match-board, felt "rubroid," and corrugated iron, and provided with guttering and R.W. pipes communicating with brick wells to carry off the rain water ; the roof has a pitch of three feet and the ridge is protected by a saddle and decorated by a scroll ; there is also a scroll border along the eaves. In continuation of the covered flight is the third part or open flight—this space like the sleeping place is six feet square ; two sides and the roof of this space are of open wire, the back or east side is of boards in continuation of the rest of the structure, while it is separated from the middle or covered flight by two folding doors, which can be shut up at night or removed altogether in the hot summer months ; in this way the aviary can be made one continuous space. The concrete floor in this part of the aviary is hollowed out into a basin, which forms a bath for the birds to wash in—this bath is provided with a standing waste, which keeps the water always at the same level. Beyond the open flight is a vestibule of approach, entirely constructed of wire netting and having two doors—one opening into the aviary the other into the garden.

The furniture of the aviary consists of hard oak transoms suspended from the roof by stout wire and forming trapezes ; in the open flight there is a rotatory system of perches turning on an axis, which extends from floor to roof ; all along the spring of the roof are

GROUND PLAN OF MRS. ANNINGSON'S AVIARY.





A. Sleeping Place.
B. Covered Flight.
C. Finches' House.

D. Open Flight.
E. Vestibule.
F. Section.

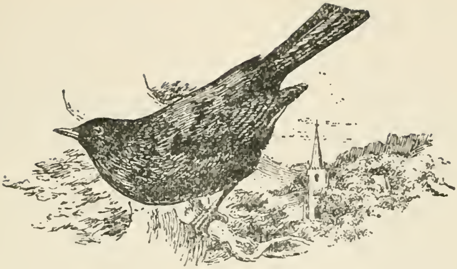
placed cocoanut husks, each with a fixed resting perch in the immediate front of the opening. Against the wooden back wall of the building are placed bundles of pea sticks to afford cover for the more timid birds. The pea sticks have this summer been a marvel of beauty with lovely little Weavers' nests, one of the bundles having as many as seven of them.

After nearly twenty years experience of keeping foreign birds I think that this kind of aviary is well adapted for the preservation and breeding of birds, and it forms in the garden an object of beauty when surrounded by bedding plants and creepers.

Notwithstanding that my birds were not removed into this aviary till the end of May or beginning of June, I have had a very successful season, having had nests of young birds, or nests only, of Peach-faced Lovebirds, Nutmeg Finches, Cutthroats, Blue Robins, Diamond Sparrows, Java Sparrows, Lavender Finches, Cockateels, Conures, and Budgerigars. This fact will, I think, prove that the aviary is well adapted for the housing of foreign birds, and I am quite sure that a great deal of my success is due to giving them a large house, where they can have a good flight and thus obtain plenty of exercise by using their wings ; it is not good to keep birds in a place where they can only hop from perch to perch. A spacious flight has the further advantage of allowing room for nesting. I fully agree with my friend Dr. Creswell, that our little feathered tropical friends want plenty of fresh air and a good house to dwell in if they are to be made to bear our climate. The aviary is not artificially heated. Any further information on the subject I shall be glad to communicate by letter to any of my readers who are contemplating the building of an aviary for foreign birds.

CLAUDINE ANNINGSON.

Walt-ham-sal,
Barton Road, Cambridge.



The Story of Bird-Death.

By W. Geo. Creswell, M.D. Durh., L.R.C.P., F.Z.S.

(Continued from page 160).

All students in certain departments of biology are aware that the anatomy and histology of birds is very different from that of those animals which are further advanced along the scale of evolution, and that this difference is found to be especially accentuated when we come to the consideration of human characteristics. We can therefore expect to find a very distinct influence exercised by this condition upon the pathology and course of disease in birds. This we do find, for there are pathological processes—very common in birds—which are unknown to exist in the highest forms of animal life. Especially in the disease now under notice shall we see an important modification in the effects produced by septic bacilli on the more lowly organized tissues of birds as compared with what happens in the case of the generally more highly specialized tissues of the human subject—a modification by the way which has been responsible for one of the most remarkable errors in the history of medicine.

The principal, and perhaps the only channels, by which the septic bacilli gain admittance into the systems of birds, are two in number:—by way of inoculation and by way of ingestion. The latter is the most usual method of infection, and since therefore the disease when so produced may be regarded as the typical form, it will be best to consider it first in this connection.

The bird having taken the germs into its alimentary tract through the medium of either food or water, a circumstance to which it is of course always liable, these germs are first of all subjected to the action of the digestive ferments, and here comes in another instance of the great law of natural selection. Just as in an army of men there are innumerable differences not only in size and nationality, but also in sturdiness and virility through the influences of heredity, age, feeding, etc., so bacilli of any particular species differ among themselves, not only in size and shape, but also in virulence, owing certainly very often to environment, and probably sometimes to heredity. Following this, no doubt in the great majority of cases, if the germs are of an indifferent quality of vitality or virulence, the digestive juices are sufficient in themselves to end the business at once. If the germs are not of so mild a fibre, and if therefore some of them escape the fate which threatens them in the cavity of the canal, and do succeed in permeating the walls of the blood vessels which ramify throughout the coats of the stomach and intestines, they then encounter the antitoxins of the blood (plasma and leucocytes), and the struggle for supremacy begins over again.

And now the first pathological condition is manifested—a more or less violent muco-enteritis in which will be found congestive patches of varying intensity and extent in various parts of the intestinal mucous membranes, with often a discoloration of the contents of the small intestines by disintegrated blood. This discoloration may vary, according to the amount of this effused and broken down blood, from the slightest tinge to a colour almost black.

In epidemics of acute septicæmia (septic fever) it is no uncommon thing to find the more weakly birds dying in this earlier stage of the disease. Those adults which have just been enfeebled by breeding or some special malenvironment, and those young ones, which, though perhaps naturally strong in themselves, have been both invigorating the germs and overtaxing their own organs by a course of egg food, are particularly apt to die at this point—a point where the amateur pathologist, or for that matter any one who depends on naked eye appearances alone, is almost sure to fall into error. At best he can only guess at the cause of the condition, because all that such an observer will see is just the enteritis and nothing else, whereas when the enteritis is septic in origin the blood of the abdominal viscera will be found under the microscope to contain great numbers of the septic organisms. The white corpuscles of the blood will also be seen in greater proportion than in health, many of them presenting numerous dark spots in their substance, and the nuclei of the red corpuscles may often be found to be in different stages of breaking up.

Should the bird survive this stage we shall find the liver and spleen engorged with blood and much enlarged, particularly the latter. This organ, which in its normal condition is about ¼ inch in length by 1-16th in diameter, *i.e.* in birds the size of a Canary, may frequently be enlarged to as much as ⅝ inch or even more, with a proportionate increase in girth. Microscopical films prepared from smears of the cut surface of these organs will reveal great numbers of the bacilli. In the spleen will be found by far the greater number, owing to its peculiar structure. In all other tissues and organs the blood stream of the arteries supplying them is ultimately spread throughout their substance by means of a dense network of excessively minute vessels called capillaries, from which it is, so to speak, collected by the veins leading from the said organs or tissues. In the spleen these capillaries are absent; the blood on being discharged into its substance from the terminal twiglets of the splenic artery permeates the spleen pulp like water in a boggy field before being gathered up by the receiving twiglets of the splenic vein, preparatory to its being carried into the liver by the portal vein. The bacilli therefore, lying about as it were in this stagnant morass, and being while in this situation somewhat relieved from the inhibitory action of the antitoxins in consequence of the structural changes going on in the blood, (for the spleen is apparently a kind of repairing yard in this respect), have greatly enhanced chances of multiplying at a rate denied to them in the liver. Not only are most of them mechanically arrested in the spleen, but those which are carried on have to contend with the antitoxic process already alluded to as existing in the circulating blood.

Such is the position of affairs at this stage of the disease, and here again I must revert to my previous warnings, even at the risk of prolixity. Nothing that we can so far distinguish *with the naked eye or even with the lower power objectives* must be taken as positively indicative of septicæmia. Livers and spleen are frequently congested and enlarged from other causes. When therefore we are told that a bird has died of septicæmia merely on such naked eye evidence as the above, or as I before said on the grounds of putridity, which are even more fallacious, we know that this statement is open to very direct question. And also when on a like naked eye authority we see the converse, viz. that such and such a bird's liver etc. was congesed or inflamed, but that there was no sign of any infectious disease, or that it died of enteritis "not of the contagious (*sic*) form," * we then know that the gentleman making these statements is somewhat more rash than discreet.

A very good instance of how easy it may be to be misled in this direction once occurred in my own experience. In October, 1903, a certain person sent me a couple of dead Canaries. On reference to my case book I find the following entry against the one which I opened first:—"To the naked eye the organs "all appear healthy, except that the spleen is very "slightly enlarged, and that there are a few small "cranial extravasations" (of blood). Now what would—what could a man say about such a case who relied only on what he could see with the unaided eye? Under such circumstances he would naturally take no serious account of the very trifling enlargement of the spleen; and would consider himself justified in saying that the bird had died of apolexy, and in giving the owner what would really be very misleading advice, laying of course great stress in the usual way on the substitution of one seed for another in the dietary, and saying nothing at all about isolation, disinfection, etc.

But let us see what the microscope revealed in this simple looking case. The next entry in the case book runs:—"The spleen swarming with the septic bacillus." Here then was the true explanation; the disease was acute septicæmia, and the bird had died in almost the initial stages of it before the existence of any marked macroscopic manifestations, succumbing thus early either through the extra virulence of the causative bacilli or else through its own special lack of resistance. On examining the other bird I found the same disease in a more advanced stage, where indeed it would have been possible for any one *cognizant of the true significance of the nodules* to recognise the nature of the disease even without bacteriological examination. To such a one the condition of this second bird would of course have made the first case one of suspicion, but if this second bird had not been sent with the other and this latter had been examined in the way generally accounted sufficient, it is easy to realize the pitfall which would have been open to the feet of an unwary or an imperfectly equipped examiner.

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* This I have actually seen from the pen of a veterinary surgeon.

(*To be continued.*)

Turquoisines.

By the Rev. C. D. Farrar.

Some few weeks ago I read the following adverisement in the *Exchange and Mart:* "Wanted, a pair of Turquoisines, must be perfect and cheap." I laughed as I read it. Only that very day a rich friend had written and offered me £10 for a hen, and here was a man wanting a pair cheap! I wondered what he would consider a reasonable price. I do not thnk he got many answers. Need I say that Turquoisines are to-day among the rarest of the rare? Why, I do not know.

Twenty years ago—ah, me! how quickly the waters of life slip under the bridge of Time?—twenty years ago I had a sailor brother-in-law who used to go to Australia and bring me home birds. I knew but little about birds in those far off days, and they say you never realize your blessings until you no longer have them. It was so in my case. One voyage he brought me some little Grass Parrakeets from Sydney, which he called Turquoisines. He told me he gave seven shillings and sixpence each for them. What would I not give now if only I had them! I remember I valued them so little that I kept them in an old double Canary breeding-cage, hung up on a wall; and they used to race wildly up and down all day, trying, I suppose, to find their way back to Australia. They lived long, and at last died in a good old age. I had no idea they would breed, and so never gave them a chance. I would far sooner, in those days, have had a good Canary! I feel inclined sometimes now, as I think of my folly, to say with the Saint of old, 'O sancta simplicitas!' When the last died, I believe I was rather glad to be relieved of the trouble of attending to their modest wants. If only I had them now, not all the wealth of Golconda would tempt me to part with them; but, as the Arabs say, there are three things which never return--the sped arrow, the spoken word, and the lost opportunity. I had my opportunity and I—threw it away.

Years passed before I had another chance, and I must confess I did not deserve it. Then one day I got a letter from Sir Henry Boynton, offering me two pairs of young Turquoisines. The price was fairly stiff, but what did that matter? To succeed you must not consider what is right or wrong, but only what is expedient. There are only two classes of men that can afford to be high-minded—the Millionaire and the Beggar. I belong to the latter category.

Money never seems to me an actuality unless reckoned by its products, merely being, according to its volume—so much food, so many birds, or perchance a coveted bit of land or a horse, consequently a commodity not to be hoarded, but to be immediately sent out to fulfil its destiny. For as long as you keep money it yields nothing but worry, the current rate o interest being simply beneath contempt. On the other hand, you buy birds as you buy food, one eats the other, there is no waste, but satisfaction and good company is the result. Away therefore went the cheque and back came the Turquoisines.

In young Turquoisines it is not easy to tell the sex for some time, and hope alternates with fear as to whether a particular bird will prove a cock or a hen. It is two years before they will breed. I kept them all the winter in my birdroom, as Turquoisines will not stand very severe weather out of doors, but if you expose them too much they will some fine morning drop dead from the perch.

In the early summer I enlarged them in a small garden aviary, remembering Sir Henry Boynton's urgent admonition to be sure to provide them with a grass run. Here they remained until Autumn and chilly evenings began, as Shakspeare says, to bring a 'nipping and an eager air.' Then I once more caged them and transferred them to the birdroom, where they spent the winter. They are rather sluggish birds and, except when feeding or courting, will sit for hours as motionless on a bough as though cut out of wood.

With the return of more genial weather the mind 'lightly turns to thoughts of love,' not my own but that of the Turquoisines. They were not out long before they showed unmistakable signs of going to nest. I may say, in passing, that one of the hens must have been especially attractive, for not content with one husband, she seemed desirous of drawing all males to her feet. I believe it was Mr. Goodwyn Sandys who said that 'one admirer at least was no more than a married woman's due.' Well, all I can say is, don't try it on with Turquoisines. No self-respecting Turquoisine will tolerate such teaching. Introduce a stranger, or leave one in the compartment, and you will witness as pretty a fight as you could wish to see, and it will cost you anything from £10 to £20. Of course this will not matter where expense is no object, but in the case of persons with limited means, it will. I had therefore to separate the two pairs to avoid murder and sudden death, and 'then Peace spread her healing wings around.'

After not many days the ladies disappeared in logs on domestic duties intent. Eggs were duly laid, and every evening about 4.30 the ladies would come off to be fed and made much of by their respective lords. The feeding was generally done in the flight. Out would pop Mrs. Turquoisine, away she would fly to the end of the run, cling to the wires and gratefully receive her supper from Mr Turquoisine. Then there would be a little mild flirtation, a visit to the grass plot, and away back to domestic duties.

At the end of about 21 days I judge the young had arrived, as the cock began to visit the log. All went well for about a week with one lot, when some evil spirit entered into the cock, and not content with good wholesome grass, what must he do but go to an elder bush growing in the compartment, gorge himself to repletion, and then go and feed those wretched youngsters. Need I say with what result? Early next morning I noticed with the eye of experience that neither parent was visiting the log. I felt a horrid sinking at the heart, like a boy who is going to be thrashed in the near future, for I knew that something was very wrong, when all the morning passed and the log was left severely alone. I concluded that the worst had happened and I just peeped inside. A glance satisfied me. There were five little Turquoisines all as dead as door nails, and their little crops stuffed full of that beastly elder. I went out and I hewed that bush in pieces, as Joshua hewed Agag the king of Amalek, though for a different reason; but it was no good, the mischief was done. Alas, the 'evil that is done for want of thought!' Who would ever have dreamt that with a good grass plot a father Turquoisine would be such an idiot? I felt as melancholy as if I was editor of a comic paper.

The other nest went on all right, and one fine morning I had the pleasure of my first sight of a baby Turquoisine. For days I had been 'fair' miserable, and as day after day went by and no youngsters showed themselves, the performance was lifted into what is called at the theatre, a situation of suspense. Imagine then my joy when one fine morning I found four little beauties awaiting my advent. They looked all eyes, like the audience in a Vaudeville, with their little sober suits of green, and just a suspicion of blue over the beaks. Would you believe it? they proved to be four hens, and as I realized this I felt like a lad I knew whose mother had just had an increase that morning. 'It's come,' he said, as he met me, 'it's a girl.' Then with a burst of righteous indignation, 'Fancy all the trouble for nothing!'

Still even four hen Turquoisines are not to be despised, and I soon managed to get mates for them, and for some years I was never without the species. Then not knowing what was coming I sold them all, and when now I want to get some I find it utterly impossible. I shall expect to get some more when I see snow in August. I see my mistake now clearly enough, but when we have learnt to see our mistakes it is too late to mend them.

And now I feel I had better stop, or you will be saying to me what the late Dean Hole once said to Dr. Payne Smith, Dean of Canterbury, who was coming to Rochester to address a Temperance meeting but fell asleep in the train, and was carried on many stations before he found out his error. 'Ah,' said Dean Hole, 'I'm not at all surprised, Mr. Dean, you teetotallers never do know when to stop!'

Bird Notes from the Gambia.

By E. HOPKINSON, D.S.O., M.A., M.B.

(Continued from page 185*)*.*

ROLLERS (*Coraciidæ*) are among the most conspicuous of the commoner Gambian birds, on account of the brilliant blues and striking contrasts of their plumage, and because they are remarkably free from shyness and usually select very exposed posts, such as the top of a bush or outlying branch of a tree, from which they will watch for, and whence they are continually flying heavily to the ground beneath to catch, locusts and other large insects, which, together with small lizards etc., form their food. At all times they are noisy birds, continually uttering their harsh croaks and cries, but more especially is this the case at the breeding season, when the two sexes scream against each other as they sport and tumble in their flight, these noisy antics appearing to represent their idea of the song and dance of courtship.

Two genera (*Coracias* and *Eurystomus*), the Typical and the Broad-billed Rollers, are found in the Gambia. Of the first, which are distinctly Jay-like in appearance and size (and are commonly known as "Jays" to the English-speaking residents), we have three or four species, all alike in having blue as the predominating colour, but differing in details of plumage and in size. The commonest is a light blue and black bird, with a deep-cut Swallow-tail, its distinctive characteristic, formed by the prolongation of the outer tail-feathers; this bird is, I believe, the Senegal Roller (*C. senegalensis*). Another species, which is particularly Jay-like at a distance, is rather larger and has a brown back, and a much duller and darker blue general plumage than the first named, while a third has a brown head and royal-blue and black upper and lower parts.

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* The first portion of this month's instalment of Dr. Hopkinson's article should have followed the account of the Nightjars on page 103, but the original manuscript was lost in the post, and the author has had to re-write it—consequently it is here inserted out of its proper order.—ED.

Of the second genus (*Eurystomus*) we have one species, a bird about the size of a Thrush but built like a Grosbeak, and with a broad triangular yellow bill with a broad gape and arched ridge. Its general colour above is a rich burnt sienna, with deep blue wings, while below it is a lovely purple and mauve. This Roller is not so common as the others, and is usually seen only in places where there are tall trees, the upper branches of which are its favourite haunt.

The BEE-EATERS (*Meropidæ*), which are smaller and more graceful birds than their cousins the Rollers, are common all over Africa. Here we have at least four or five species varying from about six to ten inches in length. The smallest is the dwarf Bee-eater (*Melittophagus pusillus*), which usually haunts patches of long grass in flocks of a hundred or more. Their colour above is sheeny emerald green, below yellow with a black breast-patch and shading into reddish brown towards the vent; the two middle feathers of the upper tail-coverts are thread-like at the ends and prolonged to equal or exceed the tail-feathers in length; the bill and feet are black: the *irides* crimson. Other species are the Swallow-tailed Bee-eater (*Dicrocercus furcatus*), and at least three representatives of the genus *Merops*, in two of which green, orange and pink are the chief colours, while in the third (*M. nubicus*) the plumage is mainly crimson and black.

All the Bee-eaters are strong active fliers, hawking like Swallows high in the air, except when, like Flycatchers, they take up positions on dead branches or stakes and thence make rapid dashes after passing insects. They are usually seen in flocks, which are often of very large size; this especially applies to the Red Bee-eaters (*nubicus*), which certainly spend more of their time on the wing than do their congeners, and are more in evidence at bush-fires, where they always swarm to prey on the clouds of insests driven up by the advancing flames. The Red Bee-eaters are also more common along the actual river-edge than the others, which seem to prefer drier, if not absolutely arid, situations.

They all lay white eggs in holes in banks; specimens which I have seen were those of the Red species, which came from a colony of nests,—holes as deep as those used by Kingfishers—in a dry mud-cliff not far from the river.

BARBETS (*Capitonidæ*). Three or four species belonging to three genera are, I believe, found in Gambia, but of these only two are at all commonly seen, namely, the large Groove-billed Barbet *Pogonorhynchus dubius*), and a smaller bird, which I take to be the Dwarf Barbet (*Barbatula minuta*). Of these the first is a robustly built bird, (about the size of a Thrush), with a powerful pink beak surrounded by black bristles: a beak well adapted for opening the hard wild figs, berries, and other fruits, on which it feeds. Its colours are distinctly gaudy: black above with a white mantle, and crimson below from throat to rump, except for a broad black pectoral band and yellow patches on the sides of the body. They are therefore among the most conspicuous of the denizens of the bush up-country or of the Bathurst gardens, in each of which they are equally common, generally going about in pairs and being by no means shy or inclined to skulk among thick foliage, like so many brightly coloured birds, but, on the other hand, apparently delighting in flaunting their red and black plumage everywhere, and to every possible spectator.

The Dwarf Barbet, on the contrary, is a very retiring bird, though it is only about half the size, and is not nearly so conspicuously coloured as its larger relative, being black above and yellowish-white below, with a little pink on the face, and a small black beak surrounded by short bristles.

WOODPECKERS are very common, but I am unfortunately unable to even attempt the identification of the species I have seen. Our two commonest species differ considerably in size; the smaller, whose general colour is pale greenish-brown speckled with dark brown, except on the nape, which is crimson, being rather smaller than a Nuthatch, and the larger bird being 7½ to 8 inches in length. The general colour of the latter is above a mottling of grey and olive-green, with a red crest and rump, the feathers here and those of the upper tail-coverts being soft, long, and pointed, with grey bases and crimson ends ; below grey shading into pale olive towards the vent ; tail-feathers stiff and pointed, brown above, below brown tinged with olive ; the bill and feet are dark lead-coloured, the iris dark brown. This bird seems to get nearly as much of its food on the ground as it does in trees, as it is frequently seen in small parties in the fields, where old cornstalks remain after harvest until they are burnt just before the next sowing, eight months later ; and here they search diligently for insects, hopping about among the fallen stalks and splitting them with their powerful beaks, or climbing up those which are still standing. Both the species I know, make a loud tapping noise with their beaks on the trunks of trees, and in other respects resemble the European Woodpeckers in habits.

PIGEONS AND DOVES (*Columbidæ*) we are well provided with. First on the list come the lovely Green Fruit-Pigeons (*Vinago*), as good to eat as they are to look upon, which are common and breed all over the Protectorate, though they are certainly at least partially migratory, as at the beginning of the rains enormous flocks of them (mostly young birds) pass over Bathurst, flying from South to North, parallel with the coast, in company with similar flocks of the Black Pigeon. In the adult the chief colours are emerald-green, golden yellow and pale purple or lilac, the green spreading over nearly the whole body except the chest, which is yellow, and the shoulders which each bear a purple patch ; the young on the other hand are almost entirely green, which is not nearly so bright as that of their parents. These birds are entirely arboreal in habits, usually keeping to the higher branches, though occasionally tempted to lower ones by ripe fruit, when they have finished that on the upper branches ; and I do not think that they ever willingly visit the ground, even to drink. They travel about in parties of about 10 or 12, and (the adults at any rate) are rather shy and wary birds, so that they are often not easy to shoot, unless one waits under a tree which is full of ripe fruit ; but even then their colours harmonise so well with the foliage, that one finds that the birds have discovered one and are off, before one has even spotted a single individual of the flock. The young on the other hand are often most unsuspicious of the gun, but then their uniform green generally makes them even harder to locate in a tree than their parents, though one may be quite sure of their presence above, from the gentle "putu-putu," they utter when feeding.

(To be continued.)

Review.

"*The Hygiene of Bird Keeping*," *by W. Geo. Creswell, M.D., L.R.C.P., F.Z.S., etc.* This pamphlet consists of the series of articles entitled "Notes on Housing and Hygiene," and one on "How I Feed My Birds," which have appeared in our pages recently —slightly revised but practically unaltered. It can be obtained from the author or from the office of "Cage Birds," price 1/1 post free. Many of our readers may be glad to have these articles in a handy form for reference—and this little work forms a most useful handbook for the bird keeper.

The great merit of Dr. Creswell's writings lies in the fact that he has a scientific reason for all his advice. Other writers had observed that birds were healthier in outdoor aviaries than indoors, that most species of even tropical birds were capable of surviving an English winter without artificial heat, that fresh air was more important than warmth—but they gave us no good reasons for the faith that was in them, and their statements, running counter to the received doctrines of aviculture, were little regarded. Dr. Creswell has gathered up and emphasised these and other points—added to them original observations of his own—and put the whole before his fellow aviculturists with all the weight of his medical authority.

To the present writer, and to many other students of aviculture who have long puzzled over the difficulties, disappointments, and seeming contradictions of their avicultural experiences, Dr. Creswell's writings have come as a revelation. At last we have an author who can explain to us many of the mysteries of bird life and death, and who, we feel, is drawing upon something more solid than the "experience" — the generally contradictory "experience" — which the reader often possesses as much of as the authors who presume to instruct him.

Unfortunately, while Dr. Creswell's contributions to the science of aviculture have been heartily welcomed by a considerable minority of bird-keepers, the majority still view them either with indifference or with hostility. He has met the fate of all reformers, and roused against himself all the prejudice, ignorance, and conservatism of the "birdy" world. This is disappointing, and makes one rather sick of one's fellow aviculturists as a body—but after all it is natural. It is hard for those who have posed as leading lights to see their most cherished practice shewn to be folly, their "science" to be nescience, and their "advice" to be a mere blind leading of the blind. While for the rank and file, the new teaching has not the attractiveness of the old—it does not appeal in the same way to that love of quackery which is innate in most of us, that delight in giving our birds something out of a bottle, that human failing which once made homœopathy fashionable. A bird physician who tells the lady who consults him about her sick bird that neither he nor anyone else can say with certainty what it is suffering from—and that, if he could tell, in all probability nothing could be done to relieve it—but that by treating her still healthy birds in the way he advises she will preserve them from a like fate—such a man will never be so popular as one who tells her, with all the confidence of ignorance, and without even seeing the bird, that it is suffering from "surfeit" or some other disease which has no existence in bird nature, and advises her to put so many drops of something in its drinking water.

This is bad enough, but what is even worse is the half-heartedness of many on Dr. Creswell's side. These know that Dr. Creswell is in the right, but fail to appreciate the importance of the controversy as part of the great battle between truth and error—they take umbrage at what they consider the needless forcibleness with which his views are sometimes expressed, and allow the old-time services to the cause, of some of Dr. Creswell's opponents, to blind them to the fact that those opponents now, in this controversy, are simply the standard-bearers of obscurantism.

These things make us doubt whether Dr. Creswell will ever be valued at his real worth by the present generation of aviculturists. But however this may be, we are certain that his teaching, being based on truth, will ultimately be accepted by all—and the knowledge that this must be so is doubtless much more to him than personal popularity and applause.

Post Mortem Reports.

(*Vide Rules*).

MAGPIE. (Mr. Pengelley). Aged 14 years. Had been ill a few weeks, and consequently the moult was retarded and difficult. The kidneys were congested, and there were some inflammatory signs in the lungs. The stomach was empty and the bowls contained an unhealthy looking fluid.

LIOTHRIX. (Mr. Dart). On external examination the vent was apparently swollen, and protruded half an inch. The abdomen was greatly distended. For more than two inches from the vent upwards the gut was distended to the size of one's little finger with hardened fœces. The small intestines were inflated with gas ("wind"). The liver was congested and somewhat enlarged. A short time ago I had another dead bird of the same species in precisely the same condition. At such a pitch medicinal treatment is hopeless.

SWAINSON'S SPARROW. (Miss Hopkinson). Beyond a slight amount of enteritis there was nothing perceptible the matter.

WEAVER. (Mrs. Curtis). This was the sixth which had died out of 14 purchased a few days before from a dealer. It died of septicæmia.

CANARY. (Mr. Tweed). This bird had been ill three days, and being apparently hopelessly ill had been killed by being thrown on the floor. In consequence of this there were innumerable ruptures of the internal organs, and the body was useless for examination.

GOLDFINCH, hen. (Mr. Fillmer). This bird was well nourished, and had died of enteritis.

CROSSBILL. (Dr. Master). This bird died of enteritis and pneumonia.

GOLDFINCH, cock. (Mr. Fillmer). One of the same recently purchased lot as the other Goldfinch. Septic enteritis was the cause of death.

LONG-TAILED GRASSFINCH, cock. (Mr. Wilson). The middle toe of left foot was gangrenous from middle joint downwards. Enteritis and pneumonia were the cause of death.

ZEBRA FINCH. (Mr. Wilson). The ulceration of the foot was probably septic, and I am inclined to think was caused in the manner suggested. The bird died of egg binding.

MASKED GRASSFINCH. (Miss Gibbins). Enteritis was the cause of death. A temperature of 40 deg. would certainly not be the cause of this. At the same time as this bird died my own were all out of doors, and one night the temperature fell to 9 deg., and none came to any harm. A reference to my recent articles will shew the kind of aviaries they are in. I use no heat whatever, and in only one aviary is there even a closed in shed. One night the birds (insectivorous) were accidentally shut out of this and roosted in the open.

[May I be allowed to remind one of the above members that I do this work gratuitously only for members and associates, and not for their friends—unless indeed it may induce the latter to become of our number].

W. GEO. CRESWELL.

Short Notes, and Letters to the Editor.

THE USE OF MEALWORMS.

SIR,—Apropos of the allusion to mealworms in the article on "Bird Feeding" in last month's magazine, it may interest you to know my experience with regard to them.

Two of my birds, a Nightingale and a Wagtail, suffered recently from badly swollen feet, and were in such a condition of general ill-health that I fully expected them to die. I had read that too many mealworms were the cause of the trouble, so I practically stopped them, giving only one or two occasionally. The birds then became painfully thin, without the disease, whatever it was, in any way abating.

Among other advice which I then sought was Dr. Creswell's. He asked for a bird to be sent to him in the cage it lived in, just as it was: so I sent the Wagtail. The cages I had were of good size and had the food and water inside. A piece of newspaper was placed on the floor and was changed daily. No sand or grit was supplied.

Dr. Creswell advised that the food and water should be placed *outside* the cage, that the cage bottoms should be covered with a *thick* layer of coarse sand, that the perches should be *round*, of various sizes, and *consist of ordinary sticks with the bark on and with any rough knots allowed to remain*, and that they should be changed fairly frequently. He also recommended the food he describes in his article plus *plenty of mealworms.*

Without going into particulars (which perhaps he will give at some time himself,) I may just say that he stated the disease was due, first to insufficient nutrition in the food I had been supplying (a made-up food which I bought, and a sample of which I sent with the bird), and secondly to the condition of the cage favouring what he calls surgical dirt, which I take to be germs.

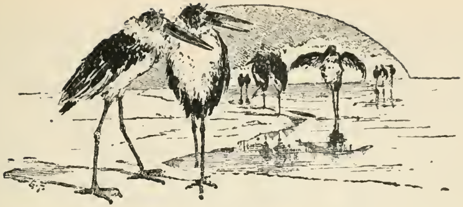
In a week or two he sent the bird back practically cured. It was fatter, though still rather thin, and the acute swelling of the joints was gone, nothing remaining except a slight thickening of the bone in one hind toe-joint. It is now going strong.

As soon as I got the advice I applied it to the Nightingale, and he almost immediately began to improve and is now completely well, though the disease has left him minus a claw.

Neither of the birds had any medicine whatever.

I would advise all our members to read Dr. Creswell's little book, "The Hygiene of Bird Keeping," a copy of which I have just obtained from him.

G. W. Moxon.



The Story of Bird-Death.

By W. Geo. Creswell, M.D. Durh., L.R.C.P., F.Z.S.

(Continued from page 202).

The formation of these characteristic nodules of caseous matter is a process depending on more than one factor. In the first place it will be remembered that there is a great tendency on the part of the bacilli to crowd together on the walls of the smallest blood vessels, thereby in places gradually reducing the calibre of these vessels. In addition to this mechanical cause a chemical one steps in. The toxins which are thrown out by the bacilli produce a coagulation of the fibrinogen of the blood while yet in the living vessels, similar to that which is so well known to take place when blood is withdrawn from the body and is placed in contact with non-living structures. So we have as an easily understood result of the combination of these two preliminary factors a condition of thrombosis. That is to say, plugs are formed here and there in the network of the minute arteries and capillaries which completely block them. Then, since there is the pressure derived from the heart's pumping action constantly exerting itself from behind, minute ruptures take place in the walls of the blocked vessels, and small extravasations of blood with its contained bacilli and its more or less disintegrated corpuscles are produced in the surrounding tissues.

Now it is obvious that these extravasations, being now of the nature of dead foreign bodies intruded into living tissues, must not only exercise some influence on these tissues but must also themselves undergo some further change. First of all the same coagulation of the fibrinogen takes place in them as has been previously noticed to occur here and there in the blood of the vessels, and which was itself the mechanical cause of the extravasation. The fibrinous clot which is thus formed then undergoes a form of gangrene which is called coagulation necrosis, and in which the cells become completely disorganised and are replaced by a granular, structureless material. This partly constitutes the caseation, but this latter is also in great part due to the massing together of countless numbers of the bacilli themselves. (Many indeed of the smaller nodules are seen to consist entirely, or at any rate almost entirely, of bacilli with the blocked vessel for a centre. When of this character they are usually rosette shaped, and this may be regarded as fairly typical of them in their earliest stages.) Gradually, by a mixture of processes, *i.e.* multiplication of bacilli, coagulation necrosis of the clot, and necrosis of the surrounding zone of tissues through pressure and consequent cutting off of the blood supply, they become larger and larger, until from merely containing numerous small nodules whole areas of the affected organ often become large masses of cheesy material simply through coalescence of these nodules. Of course this development depends entirely on the length of time the bird survives. We have seen that sometimes it dies before there has been sufficient time for the production of any nodules at all, and at the other end of the scale I have frequently found as much as two-thirds of the enlarged spleen or liver to be composed of nothing but this cheesy material.

It will have been gathered that these two organs are of course the most usual sites, but they are not the only regions where the nodules may be found. The mesenteric glands and the walls of the intestines frequently shew them. And since extravasations of blood may occur anywhere when the bacilli have succeeded in passing beyond the abdominal circulation into that of the general system it follows that the nodules can be found anywhere also. The mouth, throat, and the root of the tongue are favourite situations in even acute cases, and where the bird has lived long enough I have seen them in all stages of formation in the loose cellular tissues of the neck, scalp, and face, (particularly near the angle of the jaw), in muscles, in joints, in the lungs, and even in bone and skin.

One prominent characteristic of the disease is the rapidity with which the nodules are formed. In acute epidemics, such as often occur among Canaries at the end of the breeding season when the virulence of the microbe has been accentuated by egg food, it is often possible to determine the date of infection, and the spleen has often been found greatly enlarged and full of the seed-like nodules within as short a time as two days after the first symptoms of illness have appeared. The liver also, and even the throat in some cases, often exhibits the same nodulated condition at a very early date. Such cases are invariably plump and well nourished, sometimes indeed very fat. They have not had time to become thin : the poison has killed them before their tissues have become oxidized and wasted in connection with the abnormally high temperature which always obtains in acute affections.

Another characteristic phenomenon is the persistency of the caseation in those birds which drift into the condition of chronicity, and even in those which have recovered from the disease. *The nodules never break down to become purulent cavities such as we* *constantly see in tuberculosis.* On the contrary, as they become older they get firmer and harder, they shew more or less development of fat cells, and they contain fewer bacilli, until at last in an apparently perfectly recovered bird they will be found to contain none at all.

Extravasations of blood are peculiarly liable to take place in the brain and its coverings and into the hollow spaces between the outer and inner tables of the skull. Indeed it is this apoplexy which is the most frequent immediate cause of death in avian septicæmia. Its production is due to a combination of causes. First there is a detachment of a portion of one of the septic plugs which we have noticed as occurring here and there in the abdominal or general circulation. This fragment being carried on in the blood stream finally becomes impacted in the lessening calibre of a cerebral vessel. Then as a result of this a small aneurism (or dilatation of the artery) forms immediately behind the plug, the wall of the vessel becomes rapidly thinned, and finally a rupture takes place with formidable hæmorrhage into the surrounding structures, causing a speedy death by pressure upon the nerve centres which govern and stimulate the physiological actions which constitute life. Or again, the brain hæmorrhages may occur from merely the altered blood state to which I have previously alluded. In this case they will be noticed to be generally of small size, but to be multiple, appearing in fact as a number of small dots of varying sizes.

When, as occasionally happens, a hæmorrhage takes place immediately beneath the skin the transformation of the clot into a typical nodule takes place in somewhat the same manner as we have seen in other situations, and since this generally occurs in chronic cases the nodule frequently attains to a very large size. In the course of a great number of examinations of birds dead of septicæmia I have had the opportunity of seeing these nodules in every stage of their development—from the earliest changes taking place in a newly poured out clot of blood up to the establishment in many cases of a definite cyst wall enclosing a huge pendulous concretion of what looks to the naked eye like ordinary sebaceous matter. If however this matter is treated with ether it will be seen to contain no cholesterine, whereas if stained in the ordinary way, a film will shew the usual typical septic bacilli figured on a previous page.

(To be continued.)

Bird Notes from the Gambia.

By E. Hopkinson, D.S.O., M.A., M.B.

(Continued from page 211*).*

The next bird on our list is *Columba guinea*, the Triangular-spotted Pigeon, or (as it is called out here) the "Rhun-Pigeon," a grey bird about the same size as the Green Pigeon, that is, rather larger than a good domestic pigeon. It builds in tall rhun-palms (hence its name) and is only found in parts where they grow, being particularly common on McCarthy's Island and the district round it. Its note is a long-drawn "ku," followed by a series of shorter ones: "Kū-ū, kŭ-kŭ-kŭ."

Another bird about the same size is our "Black Pigeon," also an excellent table-bird, which I presume is *Turtua semitorquatus*, and if so, is about twice as large as the other species of the genus *Turtur*. This is a purplish - grey uniformly coloured bird with a half-collar of black, and is, like the Green Pigeon, a partial migrant.

Our Doves proper are four in number, (*a*) the Senegal Turtle, a bird like the common and prolific cage-bird, the Ring-neck or Barbary Dove, but darker in colour; (*b*) *T. vinaceus*, a rather smaller bird, like the English Turtle-Dove, but with a more brightly-coloured plumage; (*c*) *Chalcopelia afra*, the Rufous-winged or Emerald Dove, a dull chocolate-coloured small dove, with bright brown under surfaces to its wings, which, with a partridge-like whirr as it rises, are its most characteristic features. The name "Emerald Dove" is a bad one (though no doubt a taking name in an advertisement), and should be dropped, as it is based on the presence of a small spot of metallic dark green (or in our birds more commonly dark blue) on the upper surface of each wing, which by no means can be made to suggest an emerald or its colour, and which is also so little conspicuous as to be hardly visible, even at a few yards distance. The epithet "Rufous-winged" on the other hand exactly describes the bird's most salient characteristic. (*d*) The fourth is the well-known Cape Dove (*Œna capensis*), which, though not so common as the first three, is found all over the Protectorate, and is generally met with in pairs, not in flocks or smaller parties like the other doves.

PARROTS. Three species are known from the Gambia, (1) *Palæornis docilis*, the Rose-ringed Parrakeet, (2) *Pœocephalus senegalus*, the Senegal Parrot, and (3) the larger and huge-beaked *Pœocephalus ? robustus*. I have nothing to add to what I have said before about the first two, but must correct a good deal of my account of the third species. I find from further experience that they are common all over the Protectorate, on the South bank as well as the North, and that they do not leave the country at the breeding season, but retire to the mangrove belt along the tidal portion of the river to breed in holes in these trees, and as they seem to remain almost entirely among them and feed their young on the fruit or seeds of these trees, or at any rate on something they find among them, it is only natural that they are seldom seen in the more open and inhabited country during the nesting season. A friend of mine recently had three of these birds, which had been taken from nests, deep holes, in mangrove trees, and two of these lived and now have gone to England. They were very wild and intractable birds, though practically reared by hand, and were very difficult to rear, refusing to eat anything but groundnuts, and knocking themselves about a great deal.

OWLS. (*Strigidæ*). All birds of ill omen here, as in most other countries, more particularly the Great Eagle-Owl, which the natives think has all sorts of weird and wonderful powers, and that if one is killed, its slayer will without fail also die, probably from violence, within the year; a terrible fate which my black dresser found staring him in the face a month or two ago, as he had, in the bad light of an early morning, shot one of these Owls in mistake for a roosting Guinea-fowl. However, as he has recently become more cheerful, I presume there are various mystic rites which can counteract the malign influence of the slaughtered fowl, and that he has duly performed them, though this is too delicate a matter to enquire into lightly.

Beside the big Grey Eagle-Owl (*Bubo cinerascens*) we also have an Eared Owl, very like the European bird, a *Scops*, and a still smaller owl, I think of the genus *Glaucidium*, while the cosmopolitan Barn Owl is also included in our avifauna. I had one of these, out of a pair caught in a well, alive for some time, and, as far as I could see, he was absolutely identical, feather for feather, with an ordinary English specimen.

The FALCONIDÆ are numerous and in the case of many species very common, but I know so little about the differences between the various genera that I can only briefly refer to our more common representatives. Everywhere along the river the handsome white-headed brown Sea-Eagle (*Haliætus vocifer*) is to be seen perched on the trees overhanging or near the water, and occasionally wading in a shallow place either to bathe or to catch a small fish. Other Eagles are the Bateleur, usually seen soaring at a great height in pairs, and two species of Black Crested Eagles, large and small, which haunt the swamps. Kites and Vultures, the much needed scavengers of every town, are everywhere common, while we have as well numerous representatives of other genera of the Family, Buzzards, Hawks of all sizes, Goshawks, Kestrels etc. Perhaps one of the most noticeable is the Swallow-tailed Kite (*Nauclerus*), a pretty grey and white bird with a long forked tail, which looks on the wing exactly like a large grey slow-flying Swallow. They feed on insects, especially locusts in their season, and are usually seen in small flocks flying slowly towards the hills to roost, after spending the day in their feeding-grounds in the swamps.

My ability to identify the various species has been getting less and less as I have got farther down the list, and now has practically reached vanishing point, so that in reference to most of the remaining families I can do no more than barely indicate the most conspicuous members. Such a one in point of size is certainly the Ostrich, an adult specimen of which was this year (May 1904) seen close to the river. Ostriches, however, though still common in Senegambia behind our territory, are scarcely Gambian birds, and the individual I refer to was probably one which had escaped from captivity, as specimens are not infrequently brought down from the interior for sale in our territory, but I rather doubt if they ever come so near the river of their own free will.

HERONS are numerous, and vary in size from the huge Goliath Heron (a grey-backed rufous-fronted bird, half as big again as the Common Heron), down to the small "Mangrove Heron" (strictly speaking a Bittern), and include Egrets, both White and Buff-backed, and the extraordinary Hammerhead (*Scopus umbretta*), a foul-looking and foul-feeding shortish-legged bird allied to the Herons, which is found wherever there is water, and whose nests, huge masses of grass and weeds fixed high up in trees, are conspicuous objects along the banks of the creeks.

In the family *Ciconiidæ* we have two large STORKS, the Marabout and the less common Saddle-billed Stork, as well as a smaller black and white bird; while the CRANES (*Gruidæ*) are represented by the beautiful "Crown-bird" (*Balearica pavonina*). PELICANS and DARTERS are common along the river, their places being taken at its mouth by GANNETS (*Sula piscatrix*) and CORMORANTS, together with many kinds of GULLS and PETRELS. The GEESE and DUCKS include the large Spur-winged Goose, a black and white Wattle-Duck, which occurs both tame and wild, Teal and Wigeon, the latter mostly arriving in enormous flocks at the end of the rains and remaining till about Christmas-time. Among the more common of the other water- or marsh-hunting birds are RAILS, (particularly the Black Moorhen, *Limnocorax niger*, and a larger rufous-brown one, which, I think is a *Corethrura*), an occasional Jacana, several kinds of Plover, Snipe, Curlew, and other Waders.

I will conclude with our GAMEBIRDS, which include, (I use the names commonly applied here), (1) the "Bush-fowl" or "Partridge"; (2) the "Rock Bush-fowl"; (3) the Guineafowl; (4) the "Barbary Quail"; (5) the "Land-quail," and (6) the "Bush

Turkey." The "Bush-fowl" is a Francolin, *F. bicalcaratus*, a rather larger bird than the common Partridge, at least this is by far the commonest species, though another occurs, *F. lathami*, but only rarely; the latter differs from the common Bush-fowl in having a black throat and fore-neck (these parts being white in *F. bicalcaratus*), and in having in the male only one spur instead of two on each foot. The first-named is common throughout the Protectorate, and forms by far the largest portion of a Gambian sportsman's bag, to which when young it is no mean addition, as at that age it is tender and altogether excellent eating. In some places, where the cover is good but not high, they get up well, something like English birds, but among the bamboo or in the open after the grass has been burnt off, they run along out of range in front of one and are difficult to get near. I personally find them hard to hit at all times, though large bags are frequently made by good shots, for instance 20 brace a day (and a day here only means an hour or so in the morning and evening), a recent bag brought in by our best shot.

(2) The "Rock Bush-fowl" is *Ptilopachys fusca*, a small dull brown bird with a cocked-up tail, which looks exactly like a hen bantam, and which is found in small parties among the rocks of the ironstone ridges which intersect the country.

(3) The Guineafowl (*Numida meleagris*) is in places very common all along the river.

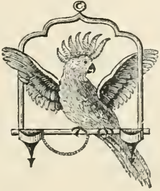
(4) The "Barbary Quail" is a Sand-Grouse, *Pterocles quadricinctus*, which is found in small parties everywhere, generally sleeping during the day on the ground, being apparently particularly fond of recently burnt patches, and becoming active as dusk comes on and during the evening.

(5) Our "Land-Quail" is a true Quail (*Coturnix*), which is rather rare and only occasionally met with, and then only an odd one here and there in the long grass of a dry swamp.

(6) The "Bush-Turkey" is a Bustard, (*Otis melanogaster*, I think), a large and handsome bird, which however is very local in its distribution; I have only met with it in one or two places, though, in the few districts to which it is partial, it seems not uncommon. The male is a fine noble-looking bird, mostly black and white, while the female is smaller and mottled brown in colour. This is undoubtedly by far the best of our food-birds from a culinary point of view, as it combines size and quality, while its legs, plump and rounded, are particularly succulent. After it, from this point of view, comes the Guineafowl, and then the young Bushfowl, the Green and the Black Pigeons, followed, but after a big interval, by the adult Bushfowl, the Sand-Grouse and the Rock Bushfowl, all of which are dry, hard, and tasteless, and need a lot of stewing.

With this digression from birds into the domain of the cook, I will close these notes; after all it is not much of a digression, at least out here, where the connection of the bird with the pot is a close one, or at any rate should be, if one's meals are to be satisfactory in quantity and quality.

THE END.



The Inheritance of Song in Passerine Birds.

FURTHER OBSERVATIONS ON THE DEVELOPMENT OF SONG AND NEST-BUILDING IN HAND-REARED ROSE-BREASTED GROSBEAKS, *Zamelodia ludoviciana* (Linnæus).*

By WILLIAM E. D. SCOTT.

I have recorded some observations in regard to the growth, plumage, and song of hand-reared Rose-breasted Grosbeaks. It is the purpose of the present paper to carry these observations a step further and to describe what occurred to the birds after they were mated, as recorded in the previous paper.

About the third week in May, 1904, the song of the two male birds, each of which now had a mate, became crystalized and assumed a definite character, which was almost alike in both, but was absolutely and entirely different from the song of the Rose-breasted Grosbeak as it is heard when wild out of doors. I have had for some years in a cage one of the Green Bulbuls of India, known as Hardwick's Bulbul, *Chloropsis hardwickii*, Jardine and Selby. This bird is singularly persistent in singing for about nine months in the year. It is a male. My two pairs of Rose-breasted Grosbeaks were in a cage adjacent to that of the Bulbul, and by the middle of May 1904 the songs of the two male Grosbeaks were so closely an imitation of the insistent song of the Bulbul that it was difficult, when not looking at the birds, to tell which species was singing. I may say that the song of the Green Bulbul is emphatic, clear, high-pitched, rather melodious, and delivered so that the whole does not occupy more time than does the song of the Song Sparrow, which, in a certain way, this song resembles. The song of the Rose-breasted Grosbeak as heard in wild birds I should describe as being like that of the Robin,* but more melodious and richer, and uttered with greater deliberation. It will be perceived that the contrast between this kind of song and that of the Bulbul is great. This song was constant and of daily occurrence throughout the last ten days of May and the whole of June, but ceased and was given up entirely by July 4.

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* Reprinted from *Science*, N. S., Vol. XX., No. 504.

During the whole of May (the pairs having mated and being in different cages), the process of mating, and later the matters of nest-building and laying were carried on as I shall now set forth. After much preliminary courting on the part of the males, which was accompanied by some severe quarrels between the mating birds, they finally became paired. These quarrels were at times so severe that it was essential to separate the birds for periods of greater or less time. The strange female which I introduced to one of the males had to remain for several weeks in a small cage inside of the larger cage in which the male was confined, in order to prevent the sanguinary quarrels in which the birds engaged. At times one would be the victor and again the other; but generally it was the male bird that was triumphant. The victor in every case so bullied and annoyed the vanquished that the life of the conquered bird was, for the time, rendered miserable. However, all this was remedied by time the birds came ultimately to a satisfactory understanding.

About the middle of May it was evident that they wished to build nests; any straw or stray feather in the bottom of the cage was eagerly taken and attempts were made to place such material in some secure position. I now put branches in both of the cages, with what I considered suitable forks in which the birds might build the characteristc nests of wild Grosbeaks. I also placed in the cage rootlets, straw, small sticks and twigs, in short, as nearly as I could, the same material that I found in the nests of wild Rose-breasted Grosbeaks. These the birds eagerly availed themselves of and for ten days or more engaged themselves most busily in abortive attempts at nest-building. They seemed unable to arrange a suitable foundation of rootlets and twigs in any of the crotches and branches I had given them, and after this had gone on for two weeks and no progress had been made, I determined to give them artificial nests. These were the kind of nests supplied to Canary birds, being wire baskets of fine mesh into which a felting of cowhair is securely sewed.

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* The American Robin.—Ed.

In both cases the Grosbeaks availed themselves of these nests at once and proceeded to utilize feathers and some extra cowhair that I had given them to complete the lining of the structure. In four days after receiving these nests both females had begun to lay; but, though each female laid a full complement of eggs, these were generally broken by the birds. The first three or four eggs laid had hard shells, and after that each of the females laid several eggs with soft shells. The way I account for the eggs being broken is that both birds of each pair, after an egg had been laid in the nest, continued their efforts to build a structure more to their liking, and it was their claws as they trampled about that perforated the shell of the eggs already laid.

After the first laying which I have described as abortive, an interval of perhaps a week intervened, when laying began again with almost precisely the same results. All this time the males were constantly singing, courting the females, feeding them, caressing them, and the operation of treading was frequently witnessed throughout the day.

While I am not prepared to conclude that the Grosbeaks would not have built a nest, if furnished with more commodious quarters and nearer like the condition of affairs that exists out of doors, I conclude that so far as nest-building in cages is concerned they are unable to accomplish anything. So far as the song is concerned I believe that they inherit the call-notes of both pleasure and fear, but that the song of the males was an imitation of the song of a bird that strongly impressed them during the period when they were cultivating this secondary sexual characteristic.

PRINCETON UNIVERSITY.
August 8th, 1904.

Review.

"*Field Book of Wild Birds and their Music.*"

(Second Notice).

THE SONG OF BIRDS.

MR. SHUYLER MATHEWS must have expended a vast amount of labour to bring this work to so successful a completion, and no one with any appreciation of sweet sounds can look through the pages without a feeling of admiration for the patience and skill that he has brought to bear upon his subject.

The book is beautifully printed by the Knickerbocker press, strange to many English readers, and includes—beside the preface, introduction, and a good index—a cleverly-written chapter on music notation, which the Author has called "A Musical Key." There are several coloured plates (which make pretty pictures, anyway), and a glossary of terms used with the bird-songs which are "set to music"—as the unscientific would say. The text is printed on one side of the paper only, thus obviating the unsightly type impression and "set-off" so objectionable to a careful printer.

The Reviewer in November *Bird Notes* frankly confesses that he is "hopelessly unmusical," so we cannot wonder at the scant praise accorded. It is evident that he is unmusical when he declares that, until he saw the book, he understood it was impossible to express the song of birds in musical notation—it was done long ago.

Mr. Robert Ball relates that Father Kircher "arranged the songs of the cuckoo, the quail, the "cock, and of the hen when she is about to lay and "and when she calls her little ones." And he "reproduced curious plates where he gives the result "of these observations." *

Barrington, also, tried to note the song of the Nightingale, but confessed he was not successful, owing to the difficulty of estimating the exact value of each note.

Helmholtz, long before, did the same thing, and it is recorded in almost every reliable work on musical notation.

But until we saw Mr. Mathews' admirable work we never met with so exact a method of noting bird songs. He has so arranged the time signs (always a great difficulty in writing a rapid succession of notes) and the octave marks that anyone can read the songs of the different birds that he has put on paper; and it is quite possible for a skilful performer to reproduce these sounds on any instrument capable of reaching the required pitch; a piccolo, an oboe, or a violin—the latter for preference.

As the Author only gives us American bird-songs the present writer cannot presume to judge of their correctness. We should be glad if some one, equally capable, on this side of the Atlantic would give us a collection of British bird-songs. The Reviewer speaks of this work as an attempt—it is surely a successful one. Any musician can understand it, and if only the Reviewer had asked a friend to endeavour to interpet "the dots on the lines and spaces," even on the ubiquitous piano, we might have had a more favourable first notice.

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* *Robert Ball, of Dublin University,* "Acoustics: or the Phenomena of Sound."

A musician, if he will only take the trouble, can analyse the song of a bird. He will listen to the sounds more intently than a non-expert would. It is possible to hear and place definitely the different intervals—octaves, fifths, fourths, thirds, slurs, and glides; to mark the mode of expression—*forte. piano, crescendo, diminuendo, sostenuto, staccato.* In the more deliberate opening phrase of the Nightingale's song one can do this easily; but we acknowledge that when the bird accelerates the pace, introducing the trills, glides, and bewitching repeated staccato tones, that it becomes more difficult to reduce the music to a notation. And it is at this point that we may realize the truth of the Italian boy's naïve reply when asked if he could read music: "Read music!" he said, "no, Excellenza, I make music, I hear music—for it is in the air!"

To describe a bird's song in words is as futile as to describe its brilliant plumage: a musical notation is necessary in the one instance, even as a coloured plate is essential in the other.

In his Introduction Mr. Mathews says

> "Syllables alone cannot express the song of a bird; they "are wholly inadequate, if not extremely unscientific. A "syllable may be spoken or sung in any tone of voice, there-"fore it is useless in *locating* a tone. . . . . Now, as bird songs "are composed of a certain number of related tones and a "limited degree of pitch, there is but one way to record them:

"that must be upon the musical staff. . . . Syllables are very "useful in expressing time or rhythm."

Mr. Mathews might have said that the song must be recorded by some *notation*, but probably he does not read music by the Tonic Sol-fa notation, and has no knowledge of the extent of the method introduced by Miss Glover and Mr. Curwen, now so extensively taught in our schools and colleges.

How much better than words is a notation! Some writers on aviculture are prone to try to imitate a bird-song by writing a succession of syllables: *tweet, tweet-tweet twee; jug-jug;* and so on, as if a mere suggestion of vowel-sounds and rhythmical utterance could convey to the musical mind the compass and melody of song!

The Author is as careful in his description of the birds' plumage as he is of the song, and many of us will agree with him when he pleads that we shall call a spade a spade:

"I do not use such color-terms as rufous, vinaceous, "fuscous, and the like, when describing a bird's colors, as it is "doubtful whether anybody knows what they mean. Imagine "yourself telling the painter to paint your house fuscous, or "directing your dress-maker to line your garment vinaceous! "Presumably the ornithologist and the botanist prefer to use "a universal language: it has its advantages, so we will "forgive them. Yet it would hit a scientist very hard, I "suppose, to suggest that he was very unscientific outside his "profession—and a trifle medieval! Otherwise, why does he "call crimson, purple? In the matter of color and music, "therefore, we will be scientific, and when the bird is crimson "we will not call him purple, but crimson, and when he sings "G sharp we will not hunt around for a syllable to represent "it, but put it on the musical staff where it belongs!"

We want a musical aviculturist—a man with a message, even as Dr. Creswell is a man with a mission in the branch of hygiene.

The gift of song in birds is sadly neglected. We hear so much of the feeding, the cages, the species, the plumage, the eggs, the cost; but so little of the song. The highest of the birds' faculties seems overlooked by us, probably because we have never taken the trouble to try to understand. "It has a sweet little song"; "Its voice is harsh and monotonous": that is all we read about the birds' endeavour to speak to us. Do we not judge a man as much by his manner of speech as by the clothes he wears? However, there are new advances in every art, and doubtless we shall some day be able to understand better and appreciate more what the birds are saying to us.

SEPTIMUS PERKINS.

Post Mortem Reports.

(*Vide Rules*).

SPERMOPHILA (GRISEA ?), hen. (Mr. Fillmer). The lungs were a little redder than is usual, and the kidneys were congested. It is quite possible that this particular bird was susceptible to cold, though I myself kept a *S. plumbea* in a partially roofless aviary out of doors all through the winter of 1901-2.

NONPAREIL, cock. (Mr. Wheeler). Pneumonia caused death, The ant cocoons certainly had nothing to do with this. I am glad to hear that the Virginian Cardinal has improved.

DIAMOND SPARROW, hen. (Mr. Porteous). Injuries to head were the cause of death. The previous restlessness was probably due to the cause suggested.

CANARY, hybrid. (Mr. North). This bird presented general appearances somewhat pointing to septic poisoning, but, since some time had elapsed between death and my examination, it was impossible to be guided by these, because under such circumstances even a microscopical examination would have been inconclusive. The tumour involving the humerus and the adjacent region of the pectoral muscle bore no appearance of being "cancer." On section it showed macroscopical indications of being due to septic deposit only. The microscopical examination of it is not yet complete.

PEACH-FACED LOVEBIRD, cock. (Mrs. Rogerson). This bird had a fatty liver and died of apoplexy.

WAXBILL. (Mr. Fillmer). Pneumonia of both lungs caused death.

GOLDFINCH. (Dr. Master). Pneumonia of both lungs.

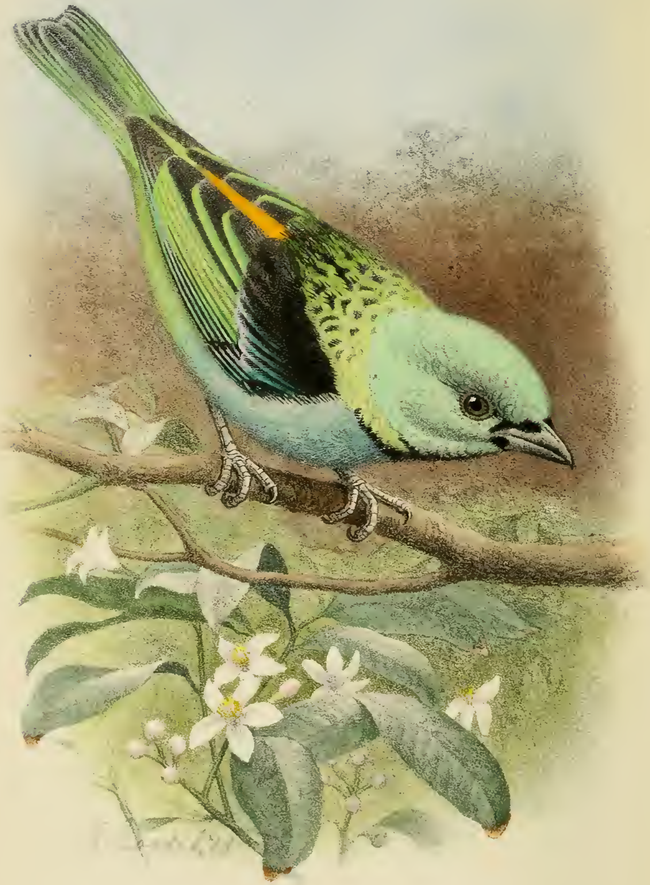
CANARIES, three. (Mr. Castle-Sloane). These birds were all inordinately obese, the internal organs being covered with layers of fat. In all three there was congestion of the liver, and also very extensive cerebral hæmorrhage. In one of the birds there was some suspicion of injury to the head, and in another there was a patch of pneumonia in one lung. I note that in their staple diet, both formerly and recently, there has been present a seed which on reference to *Hygiene of Bird Keeping* will be found should only be given occasionally.

PARROT FINCH, cock. (Mr. Picard). This bird died of acute pneumonia. The only treatment available would be to keep the bird warm and quiet.

LONG-TAILED GRASSFINCH, cock. (The Hon. M. Hawke). This bird, which had been indoors since November 1st, died of acute pneumonia. In answer to the query *re* glycerine:—It has no therapeutic qualities of any account either for good or harm. Medicinal treatment of pneumonia in birds is absolutely useless, and would be so even if the pneumonia could be diagnosed during life.

CORDON BLEU. (The Hon. M. Hawke). Pneumonia was the cause of death in this bird also.

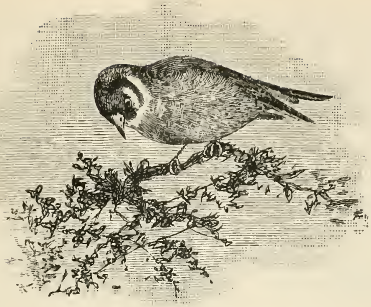
W. GEO. CRESWELL.



A.S. Huth imp.

THREE COLOURED TANAGER.
Calliste tricolor.

From a living bird in the possession of Mr S.M. Townsend.



The Tricolour Tanager.

Calliste tricolor.

By S. M. Townsend.

Early in July, 1902, I had a letter from one of our principal importers, saying that he had just received some Tanagers, and would I go and see them? Needless to say I went, and when I came away I was lighter in pocket, but had a small parcel which contained a Tricolour Tanager and a Green Tanager (*Chlorophonia viridis*). I brought them home, and after they had passed the allotted time in quarantine they were installed in my birdroom. The Tricolour settled down at once and, before I had had him long, he moulted, and came into perfect condition. I have shown him several times and always with more or less success.

He was a most attractive bird, but though very friendly and intelligent he was always nervous. At the last Show held at the Palace I had him in rather a small show cage, and late one night, whilst I was giving him his fresh fruit, he suddenly darted out of the cage door! Imagine my horror at seeing him flying about in the Palace! Still, it was worth seeing, for he looked like a beautiful jewel in the brilliant electric light. And it made one realize what it must be to see these beautiful birds in their own country. Fortunately for me he alighted near Mr. Frostick, and when I had got my heart back in the right place and gone round to where the bird had flown, Mr. Frostick was just in the act of recapturing him, and we soon returned him to his cage, none the worse for the adventure. I am sorry to say this will be his last appearance on the show bench, for he was claimed at catalogue price by someone connected with the Turkish Embassy and sent out to Turkey.

For a Tanager he was a very small fruit-eater, preferring the more juicy fruits, but indifferent to everything but grapes. He was always very eager for his bath, and used to spread out his feathers and stand in the water some time to soak, before splashing in the ordinary way. I never observed this peculiarity in any other bird, but it was certainly most effective. My Tricolour showed every appearance of gentleness and sweetness of disposition so far as I was concerned, but I never dared to allow him to share a cage with another Tanager, for he used to indulge in constant bickering through the bars with his neighbour, a Superb Tanager.

The following is an extract from Sclater's "Monograph of the Tanagrine genus *Calliste*:"

" That most accurate observer, Maximilian Prinz " zu Wied, who gives an excellent description of this " bird under the latter name (*Calliste tatas*) met with it " very commonly in the neighbourhood of Rio de " Janeiro and Cabo Frio in South Eastern Brazil, but " not farther northwards. He says it has no song. " but only a weak call-cry.* In the neighbourhood of " the Fazenda of Guirapina, and in the environs of " the Lagoa of Ponta Negra, also near Marica, and by " Campos in the vicinity of the river Parahyba

---

* My bird's call-note was certainly not a weak one.

" observes this writer, these beautiful birds are " excessively common. They are by no means shy, " and, like other Tanagers out of the breeding season, " are united in small flights, passing from one fruit " tree to another and paying particular attention to " the orange trees."

Wild Birds in the Early Year.

By Sylvia.

It is surprising how early in the year one begins to notice among wild birds the first faint but unmistakable signs that a nuptial season is at hand—a season of warmth and plenty, of joy, of love, and of song.

As harbingers of spring, we do not indeed reckon much on the optimistic Redbreast, nor yet on the placid Wren whose notes greet the chillest of winter sunbeams at the very solstice. Nor can we put much faith in the prophetic instinct of the Hedge Warbler, ever ready to carol forth a hymn of thanks for mercies, be they never so small; and the song of the Starling—a self-conscious vocalist, as all unskilful performers should be—does not more incline us to think of the coming season than of that left behind.

In the notes of the Stormcock, bidding defiance to the passing flow, there is perhaps a ring which speaks of the changing season, but even he is a winter songster, and it is only when we hear the Song Thrush—the true herald of the new year—that we perceive the old things of winter, of decay and death, to be passing away, and all nature to be becoming new. The Song Thrush's familiar congener, the Blackbird, however, with a wisdom born perhaps of his more exalted rank in Thrush society (witness the highly differentiated sexual plumage), hesitates to commit himself by singing too early in the year, and is seldom heard until February.

Perhaps a few Rooks will be seen to inspect their storm-tossed homes in the tree-tops early in January, but the work of renovation does not rightly begin until near the end of the next month or even the beginning of March. The Starlings visit their last year's breeding places every morning soon after the beginning of the year, and so also do the House Sparrows.

The males and females of the Chaffinch soon begin to intermix more generally, and the cocks seem already to be acquiring a more spick and span appearance. Towards the end of February or the beginning of March, the song of this bird is once more heard, and it gradually resorts in small bands to our kitchen-gardens to exact its share of the newly-sown seeds (seeming to prefer those of a pungent character) as, later on, it will claim its daily quota of young shoots, paying for all by the ceaseless destruction of insect pests at a still later period, or even now, by feeding on various chrysalis forms.

The Skylark sings more and more frequently; not, indeed, "at Heaven's gate," for as yet it ventures to soar but a little way. The delicious nuptial song of the Woodlark is heard in some districts as early as the end of February, the bird often singing while perched on a twig or when on the ground.

In February, also, the Redbreast begins to pair, so too the Missel Thrush, and the Moorhen; the Dipper or Water Crow is another robust species given to early breeding and still earlier song, while the Wren is, of course, well-known for its precocity in these respects. The Dipper is known as the Kingfisher in some districts, and this reminds us that the latter species, properly so-called, is also a very early breeder.

More conspicuous at this season, however, are the habits of the Finches and Buntings that throng the stubbles and ploughed lands, especially the former, in large numbers. The immense size of the flocks of Sparrows and other small birds always brings to our mind the insensate persecution to which the smaller Hawks are subjected in many parts of the country, and the pity of it. As these noble birds are destroyed by gamekeepers, the small birds begin to increase in numbers, and farmers complain and organize Sparrow Clubs for the destruction of these and other birds which levy toll on their grain. Thus, in order to preserve the chicks and poults of the Red Grouse for example, a species which periodically falls a victim to a disease far more fatal in its results than the onslaught of birds of prey, both Hawk (I may especially instance the little Merlin) and Finch suffer.

Before the first quarter of the year is out, the flocks of small birds are rapidly breaking up, as the pairs retire to their favourite breeding haunts. The Grey Wagtail is seen once more by the clear hill streams, and the Pied and Yellow Wagtails are in considerable parties on the fallows, while a few of the earliest summer migrants, the Wheatear for example, make their appearance, and the Snow Bunting, Fieldfare, and other arctic breeders begin to depart, although these migration phenomena are not yet very marked.

Very different is the appearance of bird-life in the event of a severe and prolonged frost in the early part of the year. All signs of activity and song are chilled and deadened. The birds are almost as thoroughly in the grip of Jack Frost, one would think, as

"The stream in icy fetters bound,
Benumbed and cramped to solid ground."

The Rooks and Starlings visit their nests no longer. Birds of many sorts draw near the dwellings of man, looking upon him as their natural protector, finding something in common with him in face of the inexorable cruelty of Nature, knowing full well that he is stronger and wiser than they. Small birds take up their abode in crowds about the farmyard. Gulls devour ravenously the dry bread thrown to them. The Moorhen leaves her happy hunting grounds by the streams, and the Red Grouse deserts the ling and whortleberry of the moor, to look for food at your very door. The muddy shores of estuaries are thronged by tens of thousands of Limicoline birds, Ducks and other forms—Rook, Daw, Pipit, Wagtail.

Then the snow comes, and wraps the landscape in a winding-sheet. The Thrushes throng in the hawthorns, Redwings perish in hundreds in the fields. Perchance the Fieldfare has disappeared altogether for a time, in quest of better conditions of life. Larks and Peewits, driven from the higher lands, move about the country in flocks, aimless and bewildered.

"Cauld blaws the wind frae east to west,
The drift is driving sairly;
Sae loud and shrill I hear the blast,
I'm sure it's winter fairly.

The birds sit chittering in the thorn,
A' day they fare but sparely;
And lang's the night frae e'en to morn—
I'm sure it's winter fairly."

Ah, it is a sad time for the birds. Not the evil-doings of all the bird-catchers in Christendom, not all the loss in bird life that would accrue were our Wild Birds Protection Act to become null and void for many a year, can approach the devastation caused among birds by a single severe frost. Yet amid all this harshness of the elements the sweet faltering note of the Redbreast may now and then be heard. Sad yet hopeful; dimly expectant of the marvellous change to take place at the swift thaw in early spring ;

dimly conscious that though weeping among the birds may endure for a night, yet joy assuredly cometh in the morning.

The Siberian Tit.

By the Rev. C. D. Farrar.

It is not always possible to live up to one's reputation. I believe I am supposed to be invariably successful, either owing to good luck or my immense aviaries: here then is a simple record of failure, to encourage others. We mortals should chiefly like to talk to each other out of good will and fellowship, not for the sake of hearing revelations or being stimulated by witticisms, and I have generally found that it is the rather dull person who appears to be disgusted with his contemporaries because they are not always strikingly original, and to satisfy whom the party at a country house should have included the Prophet Isaiah, Plato, Francis Bacon and Voltaire!

With this brief exordium let me begin this paper. Some of my readers may know the following lines written by a certain poet concerning mice playing round a trap:

> Alas! regardless of their fate
> The little creatures play;
> No sense have they of ills to come
> Nor care beyond to-day;
> Yet see how all around them wait
> The ministers of human fate.

I behaved like the mice, and in my case the minister of fate was Mr. Thorpe of Hull. One morning he asked me, on one of his insinuating post cards, if I wanted some Northern Tits? Need I say what my answer was?

In order to make a man covet a thing it is only necessary to make the thing difficult to attain. It is the satisfaction of doing something which no one else has ever done that spurs one on. It was some such thought as this that led me to send for those Tits. It seemed such a safe way of getting a medal. Here were the birds: I had only to breed them and the medal was mine. I felt almost like Lady Macbeth, as she says of the dagger: "Is this a dagger that I see before me? Come, let me clasp thee!" Somehow, when the Tits arrived the medal did not seem such a dead certainty as I had before pictured it; for the cock bird was suffering—not like myself, with swelled head, but from swelled eye; he had also apparently been existing on a diet of peameal, and was altogether in a very parlous state. By judicious feeding I managed, as I thought, to pull him quite round, but, alas, after some three weeks of perfect health all the old symptoms returned with tenfold force, and nearly all the feathers came off his head.

I went away for my holiday on a Monday morning in July with many sad forebodings. On the Wednesday I received a letter from my youngest boy, direct and pointed in its simplicity. He evidently had no notion of breaking ill tidings gently. Some of us have heard of the old gardener who, when a favourite dog died in his master's absence, wrote somewhat as follows, on three separate post cards, with the evident intention of preparing his master for the blow about to fall: "Dear and Honored Sir,—Belle be very bad —Belle be no better—Belle be dead." My letter ran as follows: "Dear Father,—I don't know how it is with you, but everything here is going wrong. The cock Tit is dead. It is no use to worry, he had plenty of maggots; the hen is alright." Bang, then, had gone my chance of a medal!

Any intelligent man will understand that it was a situation calculated to amuse the ungodly, but without any real fun in it. My feelings belonged to that kind known as indescribable. My jaw fell like a signal flag, and the three queens, as they steered King Arthur to Avilion, could have afforded no sadder pageant than I was that morning as I studied that letter.

Some day of course I hope to replace him. Why do we always hope over the possible? Why does a cat waste time sitting at a mouse-hole? Because she knows the mouse is there and hopes it will come out presently. I know that my mouse exists somewhere, perhaps someday he will come my way.

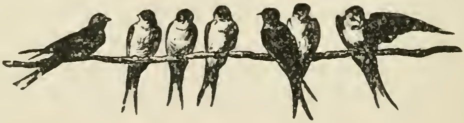
Meanwhile I can only write a few notes for the guidance of those who may be lucky enough hereafter to obtain *Parus sibericus.* I will first of all, for the benefit of our members, briefly describe them.

The Siberian Tit is an inhabitant of the Northern parts of Europe and Asia. The upper surface of the bird is a deep ash color, the quills, secondaries, and tail feathers edged with white; throat black; upper part of the chest white, under part greyish white; slightly rufous on the flanks; bill and tarsi lead color; crown of the head black. The birds in marking remind me very much of the English Blackcap or the American Cat-bird. The cock has rather a pretty song, and sings at the end of a bough, waving his tail from side to side. The hen is much smaller in every way, and the spot on her chin is less than in the cock, and her wings are not so clearly edged with white.

Siberian Tits are exceedingly friendly little birds and soon become perfectly tame, and will at any time take live food from the fingers. Like all Tits they run and climb among the branches in all sorts of strange positions. I feed mine on my own soft mixture, but they require also a regular supply of live food. They are inordinately fond of maggots, and a good mealworm will send them wild with excitement. The way they eat a mealworm is heart-rending to a beholder, as doubtless it is to the mealworm! They get hold of him by one end, it does not seem to matter which, and they eat him up steadily bit by bit; the last part often being very much alive when swallowed. They have also a curious habit of hiding what they cannot eat at the time. I have often watched mine take a maggot to a hollow branch of elder and put him down, then ram him in tight with her beak, and after a time go and fetch him out and eat him in the most business-like way.

They are naturally birds that cannot stand heat, but do not mind any amount of cold. My hen now enjoys "brute health," which is all the more annoying as when they came to me she was decidedly the weaker vessel. I am sure she would nest if I could find her a mate. I don't suppose I ever shall. There are three things, say the Arabs, which never return: the sped arrow, the spoken word, the lost opportunity. For one brief moment I had my opportunity—and lost it, I fear for ever.

I think I had better draw this paper to a close, or some of my readers will be saying to me what a member of his flock said to a certain Scottish minister. Asked how he liked the sermon, the old fellow replied diplomatically that it was "*a vera satisfying sermon.*" Asked what he meant, he rather spoilt himself by his definition—"Because nobody wants to hear you again"!



Foreign Birds at the Crystal Palace Show.

By D. SETH-SMITH, M.B.O.U., F.Z.S.

MY friend Mr. Townsend has asked me to write a critique on the foreign birds at the recent 'Great National' show, a task which I find somewhat difficult, for the catalogue in which my notes were made has gone to a friend abroad, and I inspected the classes more with the object of admiring the rare and beautiful than with that of criticising. I am afraid therefore my remarks must take more of the form of an ordinary report.

CLASS 120. *Budgerigars, and all species of Lovebirds, and Hanging Parrots.*

Mrs. C. Anningson received the first prize for a pair of Peach-faced Lovebirds, Mrs. C. Cooper second with a pair of Budgerigars, and Mrs. Anningson third with Red-faced Lovebirds. I should have been inclined to transpose the second and third prize-winners.

CLASS 121. *All species of Parrakeets other than Budgerigars, including Kings and Broadtails, Lorikeets and Lories.*

First, Miss C. Rosa Little, with one of the few that now remain of the small consignment of Varied Lorikeets that arrived in this country in November 1902. It well deserved its position. Mr. L. W. Hawkins second with a Tui Parrakeet; Mrs. C. Cooper third, with a pair of Barnards; Mr. Osbaldeston fourth with a cock Redrump, and the same exhibitor extra fourth with an Adelaide cock. I do not remember noticing this last bird.

One of the most interesting birds in this class was a hybrid between a Redrump and a Rosella, belonging to Mrs. C. Cooper; but being a hybrid, and therefore not a "species," it was disqualified. As there was no class provided for hybrid Parrakeets, or, in fact, for any foreign bird hybrids, it seems very hard that this bird should be disqualified, for the inclusion of such hybrids as this adds very considerably to the interest of the exhibition. I would suggest that, unless classes for hybrids can be provided, the word "species" be omitted from the schedule if the Judges consider that while it stands hybrids must be disqualified.*

CLASS 122. *Grey Parrots and all species of Amazons, Cockatoos, and Macaws.*

Mr. C. A. Edwards received first and three specials with his well-known female Banksian Cockatoo; Mr. Osbaldeston second with a Macaw, which I am afraid I hardly noticed, and I cannot remember to which species it belonged. Mrs. Anningson's White-browed Amazon came third, and her Goffin Cockatoo fourth. The same exhibitor sent a female Eclectus, which was disqualified as being in the wrong class. Surely it would be better to make this class for "All short-tailed Parrots (except Lovebirds, Passerine and Hanging Parrots), Cockatoos and Macaws." This Eclectus certainly looked more in place where she was than she would have done in the mixed class, though with the classification as it stands the Judge could not do otherwise than disqualify it.

CLASS 123. *Common and Green Avadavats, St. Helena, Grey, Orange-cheeked and Golden-breasted Waxbills; Parson, Diamond, Ribbon and Zebra Finches, Silverbills, Spice-birds, Java Sparrows; Black-headed, White-headed and Bronze Mannikins; Common, Orange, and Napoleon Weavers and Common Combassous.*

First, Mr. L. W. Hawkins with a fine pair of Diamond Sparrows; second, Mr. H. Young with a pair of St. Helena Waxbills; third, Mr. E. Court, a pair of Golden-breasted Waxbills; fourth, Mr. J. B. Housden, a pair of Parson Finches. A Chinese Jay-Thrush was wrongly entered in this class.

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* The Secretary of the L. & P. O. S. has promised to have a class for foreign hybrids at the next National Show, and it will rest with the exhibitors whether it becomes an annual institution.—S. M. T.

Class 124. *All species of Waxbills, Grassfinches, Weavers, and Mannikins not comprised in the above.*

Mr. H. E. Peir's Yellow-rumped Munia received the first prize in this class, as well as the Abrahams Memorial Special for the rarest bird in the show. Although there were other birds present that were perhaps equally rare on the show bench, the fact of this species being very rare in its own country entitled it to the position in which the Judges placed it. The second prize went to Mr. Hawkins' Red-faced Finch, a well-known prize-winner. Third, Mr. Percy Pier's Rufous-tails, a fine pair, but hardly so good as Mr. Osbaldeston's cock Crimson Finch (fourth prize), or Mr. Picard's Parrot Finches (V.H.C.). Mr. L. W. Hawkins' Bicheno-Zebra-finch hybrids were passed as being in the wrong class, but there was no other class in which they could have competed ; and my remarks above, about Mrs. Cooper's hybrid Parrakeet, apply equally in the present case.

Class 125. *All species of Grosbeaks, True Finches, and Buntings.*

First, a fine male Olive Finch, shown by Mr. H. B. Smith ; second, a Virginian Cardinal, belonging to Mrs. Anningson ; third, a very fine Japanese Hawfinch, sent by Mr. Osbaldeston ; and fourth, a pair of Cuba Finches, not looking their best, owned by Mr. Hawkins.

Class 126. *All species of Tanagers, Sugar-birds, Honey-eaters, Zosterops, Bulbuls, and Sun-birds.*

This class and the next are almost always the most interesting in the show, and on this occasion were no exception to the rule. Mr. Townsend's extremely beautiful Black-backed Tanager was very rightly first and special. The second prize went to a very perfect hen Blue Sugar-bird, also owned by Mr. Townsend. It is difficult to understand what the Judge was thinking about when he awarded the third prize in this class. The winner was catalogued as a "Black and Gold Tanager," but it was not a Tanager at all, but a Yellow-shouldered Hangnest (*Icterus tibialis*), a bird that had no right in this class whatever. Mr. Townsend's Blue-winged *Chloropsis* should have been third instead of fourth, a position which it shared with Captain Kerr's Common Green Bulbul. Mr. Hawkins' rare Crowned Tanagers should not, I think, have been passed unnoticed, as they were, by the Judge.

CLASS 127. *All species not comprised in the above.*

This is always an interesting class, but it must be a difficult one to judge. Some of the exhibits which obtained nothing more than a V. H. C. or H. C. card were quite as good as the prize-winners. Mr. L. W. Hawkins' obtained first prize with a very fine White-throated Ground-Thrush; Mr. Osbaldeston's Green-billed Toucan was second, and the same gentleman's Purple-headed Glossy Starling third. Mr. Townsend's Andaman Starling and Mrs. Anningson's pair of Green Glossy Starlings, both of which obtained V.H.C. cards, were about as good as they could be.

Post Mortem Reports.

(*Vide Rules*).

CANARY. (Mr. Slatter). This bird, which was intensely fat, had an enormously enlarged spleen, a congested and softened liver, pneumonia of one lung, and cerebral hæmorrhage. Such a condition was strongly suspicious of septicæmia. No microscopical examination was made.

BICHENO FINCH. (Mr. Fillmer). Pneumonia was the cause of death.

BUDGERIGAR. (Mr. Slatter). Pneumonia.

CANARY. (Miss Nicholson). The lungs were congested and the air sacs contained a good deal of flaky exudation of lymph.

BUDGERIGARS, two. (Mr. Hentsch). All the organs were quite healthy, but the alimentary tract in both birds was entirely empty of food.

SISKIN, cock. (Mrs. Mellor). This bird was very thin, and died of enteritis and pneumonia.

MOCKING-BIRD. (Mr. True). This was an aged bird, and was a female. General septic disease was present.

DIAMOND DOVE, cock. (Miss Baker). Pneumonia of some standing was the cause of death.

BUDGERIGAR. (Mr. Slatter). This was a case of apoplexy in a bird with all the internal organs healthy, but which was very fat.

WHITETHROAT. (Mr. Fillmer). Pneumonia of both lungs was the immediate cause of death. There was also old standing congestion of the liver.

BUDGERIGAR. (Mr. Wheeler). Fatty degeneration of the liver.

VIRGINIAN CARDINAL. (Mr. Dart). Recently purchased. There was extensive inflammation of the peritoneal and the pericardial sacs, with much deposit of white flaky lymph. The intestines were matted together. In addition there was a recent pneumonia. The condition was most probably septic in origin.

LINNET-CANARY hybrid. (Miss Nicholson). Fatty degeneration of liver and pneumonia of both lungs.

W. GEO. CRESWELL.

Short Notes, and Letters to the Editor.

PARROTS NOT BATHING.

SIR,—In answer to a query from Mrs. Martin on this subject the following answer has been sent.

"We often find that certain individuals of almost any species of bird refuse to bathe. I have a Canary, (kept indoors as a songster during the winter), which never bathes, although on frequent occasions I have left a bath in his cage for as long as a couple of days at a time. I also possess a very gifted Rose-breasted Cockatoo who is equally averse to washing himself, and a year or two ago I had a Bluefront Amazon with the same peculiarity. In fact many Parrots will never bathe."

"The best thing to do with such birds is to run them into an old cage kept for the purpose, and to then gently spray them until they are wet through, returning them to their own cage when they are dry. In the meantime the opportunity can be taken to give the cage a thorough cleaning with boiling water."

W. GEO. CRESWELL.

OUTDOOR *versus* INDOOR AVIARIES.

Sir,—I have this winter tried a little experiment with the Double-banded or Bicheno's Finch, which I think constitutes a useful piece of evidence in reference to the above question.

Last autumn, having ten examples of this species in my outdoor aviary, I caught five of them and removed them indoors. The other five were left in the outdoor aviary, of which a description appeared in Vol. II. pp. 225-7. The bird-room in which those brought indoors were placed, is a very sunny warm room facing full South. The temperature has never fallen to 45 deg. this winter, although artificial heat has only been used on a few of the coldest days during severe frost. The window is always slightly open, night and day.

Of the five in the bird room, one died of pneumonia in January. Of those outdoors one died of egg-binding in February. One very cold morning in February I found another in the outdoor aviary apparently ill and scarcely able to fly—but it completely recovered after a few hours in a warm room—this one has not been put out again. All the rest have been perfectly well all the winter.

It would seem, therefore, that this delicate Australian species has as good a chance of surviving the winter in an outdoor aviary as when kept indoors.

Horatio R. Fillmer.

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The Foreign Bird Club.

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Editorial.
H. R. Fillmer,
52, Ship Street, Brighton.

Exhibitional.
S. M. Townsend,
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RULES.

1. The objects of "THE FOREIGN BIRD CLUB" shall be the mutual encouragement and assistance of the members and associates in the keeping, breeding, and exhibiting of foreign birds, and the improvement of Shows in regard to them.

2. The Club shall be composed of members and associates. Every member shall pay an entrance fee of 2/6 and an annual subscription of 10/-. Every associate shall pay an entrance fee of 2/6 and an annual subscription of 6/-. Associates shall have such of the privileges of members as the Council shall from time to time direct. Subscriptions shall be due and payable in advance on the 1st of March in each year. If any member's or associate's subscription shall be more than three months overdue he shall be suspended from all the benefits of the Club, and if more than nine months overdue notice of his having ceased to be a member or associate of the Club, and of the cause, may be published in the Notices to Members; and on such notice being published he shall cease to be a member or associate accordingly, but his liability for the overdue subscription shall continue.

3. New members shall be proposed in writing by a member of the Club and new associates by either a member or an associate: and the name and address of every person thus proposed, with the name of the person proposing him, shall be published in the Notices to Members. Unless the candidate shall, within fourteen days after the publication of his name, be objected to by at least two members, he shall be duly elected. If two or more members lodge with either of the Secretaries objections to any candidate he shall not be elected, but the signature to the signed objections must be verified by the Scrutineer. The Secretaries and the Scrutineer shall not disclose the names of the objectors. Associates desiring to become members shall go through the same form of election as other candidates but shall not pay an entrance fee.

4. Any member or associate wishing to resign at the end of the current year of the Club shall give notice of his intention to one of the Secretaries before the 1st of February, and in default of such notice he shall be liable for the following year's subscription.

5. The officers of the Club shall be elected from the members and shall consist of a President, one or more Vice-Presidents, an Auditor, a Scrutineer, one or more Secretaries, a Treasurer, a Council of twelve members, and such number of Judges as shall from time to time be determined by the Council. The Secretary or Secretaries and the Treasurer shall be ex-officio members of the Council. The Secretary or Secretaries, the Treasurer, the Council, and the Judges shall be elected annually by the members in manner hereinafter provided. The other officers shall be elected annually by the Council immediately after their own election.

6. The election of the Secretary or Secretaries, Treasurer, Council, and Judges shall take place every year between the 15th of January and the 5th of February. The Secretaries shall ascertain which of the members are willing to stand for election to office, and shall send to each member of the Club, on or about the 15th of January, a voting paper containing a list of all such members, showing the offices for which they are respectively seeking election. Each member shall make a cross (**X**) opposite the names of those for whom he desires to vote, and shall sign the paper at the foot and send it in a sealed envelope to the Scrutineer, so that he may receive it before the 5th of February. The Scrutineer shall prepare a return of the officers elected, showing the number of votes recorded for each candidate, and send it to one of the Secretaries for publication in the Notices to Members for February. The Scrutineer shall not reveal to any person how any member shall have voted. In the event of an equality of votes the President shall have a casting vote.

7. Dealers in birds shall not be eligible for election to any office in the Club, except that of Judge. For the purpose of this rule any member who habitually buys birds with the intention of selling them again shall be deemed a dealer in birds. Before the annual election of officers the Secretaries shall submit to the Council the list of members willing to stand for election to the Secretaryship, the Treasurership, and the Council, and the Council shall remove from the list the name of any candidate who shall be, in the opinion of the Council, a dealer in birds within the meaning of this rule. The decision of the Council, or of any Committee to whom the Council shall delegate its powers under this rule, shall be final. When a dealer is proposed as a member of the Club,

the fact of his being a dealer shall be stated in the Notices to Members.

8. It shall be lawful for the Council to delegate any of its powers to a Committee.

9. The Council may appoint an Arbitration Committee which may decide questions at issue between members and associates when requested to do so by both parties. Any decision of such Committee shall be final. Except to the extent permitted by this rule, the Club and its officers shall decline to concern themselves with disputes between members.

10. The Council shall have power to alter and add to the Rules, but shall give to the members notice of any proposed alteration or addition, and in the event of six members objecting thereto within fourteen days the proposed alteration or addition shall be submitted to the votes of the members. Failing such objection the alteration or addition shall date from its adoption by the Council.

11. The Council shall have power to expel any member or associate at any time.

12. Neither the office of Scrutineer nor that of Auditor shall be held for two consecutive years by the same person. The Scrutineer shall not be a candidate at any election at which he acts as Scrutineer.

13. If any office become vacant at any time other than at the end of the current year of the Club, the Council shall have power to nominate any member to fill the vacancy.

14. The decision of the majority of the Council shall be final and binding on the Club, but a resolution passed by the Council shall not be acted upon unless there be an absolute majority of the Council (and not merely of those voting) in its favour.

March, 1904.

Roll of Members.

ACUTT, JOHN, 114, Upland Road, East Dulwich. (Dec., 1901).
ALDERSON, Miss R., Park House, Worksop. (Nov., 1901).
ANNINGSON, Mrs., Walt-ham-sal, Barton Road, Cambridge. (Dec., 1901).
ARMSTRONG, W., F.G.S., Cramlington, Northumberland. (Oct., 1903).

BAKER, Miss M. E., Granite House, Mount Sorrell, Loughborough. (Sept., 1902).
BARBER, J. G., Waverley House, Melton Road, Leicester. (June, 1903).
BARBER, Mrs. JAMES, Milestone Cottage, Wickford. (April, 1903).
BARKER, W. H., Norwood House, Clifton Road, Rugby. (July, 1903).
BARNS, Miss MINNIE, F.Z,S., 52, Fitzroy Road, Regent's Park, N.W. (June, 1903).
BELL, GEORGE, Dernatowny, Drumkeerin, co. Leitrim. (April, 1902).
BENNETT, J. C., 32, Victoria Road, Widnes. (May, 1903).
BETTS, WILLIAM H., F.L.S., F.Z.S., 25, Stratford Place, Camden Square, N.W. (Nov., 1901).
BLISS, H E., c/o South African Milling Company, Ltd., Port Elizabeth, Cape Colony. (Jan., 1903).
BONHOTE, J. LEWIS, M.A., F.Z.S., M.B.O.U.. Ditton Hall, Fen Ditton, Cambs. (Jan., 1904).
BOYD, HAROLD, Barton House, Didsbury, Manchester. (April, 1903).
BRADSHAW, GEORGE, Talbot Terrace, Lytham. (June, 1902).
BRAMLEY, J., 2, Beech Grove, Harrogate. (Jan., 1904).
BRETHERTON, C. H., 12, The Paragon, Blackheath. (March, 1903).
BROMET, Mrs. HENRY, Highfield, Tadcaster. (Nov., 1903).
BROOKSBANK, HUGH L., Wallington, Beverley. (March, 1903'.
BROOKSBANK, Miss E., Sand Rock, Tickhill, Rotherham. (Nov., 1902).
BULLOCK-WEBSTER, A., King's Close, Barnstaple. (Oct., 1902).
BURGESS, H. W., High Street, Bushey, Herts. July, (1902).
BUSTEED, Miss, 32, Charleville Mansions, West Kensington. (Sept., 1903).
BUTLER, Mrs. E. M., 30, Sutton Court Road, Chiswick, W. (Oct., 1903).
BUXTON, CHARLES, 39, Harrington Street, Cleethorpes. (Jan., 1904).

CAMPBELL, Miss, Market Square, Ely, Cambs. (March, 1903).

CAMPS, H. T. T., F.Z.S., Linden House, Haddenham, Isle of Ely. (Orig. Mem.)

CARRICK, GEORGE, "Stratford," Arygle Road, Saltcoats, Ayrshire. (Nov., 1901).

CASTANG, Miss BEATRICE, Station Parade, Palmer's Green, N. (Nov., 1903).

CASTLE-SLOANE, C., F.Z.S., Oat Hall, near Crawley, Sussex. (Nov., 1902).

CATTLE, C. A., Thurston, Bury St. Edmunds. (April, 1903).

CHAMBELAIN, Dr. C. B. d'EYNCOURT, R.N., "Twynham," Bournemouth. (Orig. Mem.)

CLARKE, R. H., M.A., M.B., 80, Hamlet Gardens, Ravenscourt Park, W. (May, 1903).

COCHRANE, G., St. Boswells, Scotland. (Oct., 1902).

COCKAYNE, FRED., Craig Villa, 50, Thorneywood Rise, Nottingham. (Dec., 1902).

COLTON, R., 39, Kearsley Road, Sheffield. (May, 1902).

CONSTABLE, The Rev. W. J., Uppingham. (April, 1903).

COOK, ARTHUR, "Glyncote," Kingsbury Road, Gravelly Hill, Birmingham. (Jan., 1903).

COOPER, Mrs. C., "Rosella," Dalberg Road, Brixton, S.W. (Jan., 1902).

CRESWELL, ALFRED HENRY, L.S.A., Yorke Villa, Cinderford, R.S.O., Gloucestershire. (July, 1903).

CRESWELL, EVAN JAMES, 4, West Avenue Road, Walthamstow. (Oct., 1903).

CRESWELL, W. GEORGE, M.D., F.Z.S., Eden Lodge, Kingston-on-Thames. (April, 1903).

CRONKSHAW, J., Mansion House, Plantation Street, Accrington. (Nov., 1901).

CROSS, Mrs., The Manor House, Sleaford. (Nov., 1902).

CUSHNY, CHARLES, Pain's Hill, Cobham, Surrey. (Orig. Mem.)

DART, HENRY, 53, Richmond Road, Kingston-on-Thames. (Feb., 1903).

DAVIES, Mrs. J. E., Granby Street, Littleport, Isle of Ely. (July, 1903).

DAY, E. C., 238, Cromwell Road, Peterborough. (June, 1903).

DAY, Mrs., The Rectory, Killeagh, co. Cork. (Nov., 1902).

DECIES, Lord, Beresford Lodge, Birchington. (Nov., 1903).

DECIES, The Lady, Beresford Lodge, Birchington. (Nov., 1903).

DENNIS, Mrs. HAROLD E., Warrenhurst, Itchingfield, Sussex. (Jan., 1904).

DEWAR, J. F., 2, St. Patrick's Square, Edinburgh. (Orig. Mem.)

DE YARBURGH-BATESON, The Hon. LILLA, Heslington, York. (June, 1903).

Divett, Mrs. J. Ross, Newby, Salisbury Road, Southsea. (Dec., 1903).

Dixon, A. P., 45, Myrtle Grove, West Jesmond, Newcastle-on-Tyne. (Oct., 1903).

Dobbin, J. L. T., St. James's Gate, Dublin. (Oct., 1902).

Dunleath, The Lady, Ballywalter Park, Ballywalter, co. Down. (Nov., 1901).

Dutton, Mrs., Bank Cottage, Walton, Stone, Staffs. (Nov., 1901).

Fasey, William R., The Oaks, Holly Bush Hill, Snaresbrook. (Jan., 1903).

Feilding, Miss Margaret, Broome Park, Betchworth, Surrey. (June, 1903).

Fillmer, H. R., 52, Ship Street, Brighton. (Orig. Mem.)

Finn, Frank, B.A., F.Z.S., M.B.O.U., 29, Chalcot Crescent, Primrose Hill, N.W. (Sept., 1903).

Fletcher, The Rev. J. C. B., M.A., Mundham Vicarage, Chichester. (July, 1902).

Fogg-Elliot, Mrs., Staindrop, Darlington. (Dec., 1903).

Fortlage, Henry E., Suffolk House, Weybridge. (May, 1902).

Foster, William Hill, 164, Portland Street, Southport. (Nov., 1901).

Foulis, J. J., 33, Dale Road, Buxton, Derbyshire. (May, 1903).

Franz, J., 15, Greek Street, Soho, W.C. (April, 1903).

Gill, Arthur, M.R.C.V.S., Bexley Heath, Kent. (Nov., 1901).

Goodchild, H., M.B.O.U., 66, Gloucester Road, Regent's Park, N.W. (July, 1903).

Gorringe, The Rev. Reginald E. P., 89, Cromwell Road, Peterborough. (Dec., 1902).

Gorringe, The Rev. P. R., Munston Rectory, Sturminster, Newton, Dorset. (Sept., 1903).

Gorter, Madame Alys v., The Delta, Walmer, Kent. (Nov., 1901).

Grace, G. Le C., 24, Wood Street, Wakefield. (Feb., 1902).

Greene, W. T., M.A., M.D., F.Z.S., 282, Portobello Road, North Kensington, W. (July, 1903).

Grosvenor, Miss M. C., Tittensor Chase, Stoke-on-Trent, Staffs. (April, 1904).

Halliwell, J., M.R.C.V.S., 11, Westbourne Grove, West Kirby. (March, 1903).

Hamilton, Miss M., 120, Stephen's Green W., Dublin. (Nov., 1902).

Harding, W. A., F.Z.S., Histon Manor, Cambridgeshire. (Dec., 1903).

HARMAN, J., 56, Tubbs Road, Harlesden, N.W. (Feb., 1903).
HARRISON, J. H., 18, East Beach, Lytham. (Dec., 1901).
HATCHER, J. F., 168, Upper Thames Street, E.C. (June, 1903).
HARVEY, EDWIN J. N., Stirton, Victoria Road N., Southsea. (April, 1903).
HAWKINS, L. W., Estrilda, New Clive Road, West Dulwich. (Orig. Mem.)
HEALEY, Mrs., 12, Rossetta Gardens Mansions, Cheyne Walk, S.W. (Feb., 1903).
HESELTON, H. C., 274, Westminster Road, Liverpool. (April, 1902).
HOLLINS, J. T., 7, Lowther Arcade, Harrogate. (May, 1903).
HOPKINSON, Miss E. M., 45, Sussex Square, Brighton. (Sept., 1902).
HOPKINSON, EMILIUS, M.A., M.B. (Oxon.), D.S.O., 45, Sussex Square, Brighton. (Oct., 1901).
HORSBRUGH, Capt. B. R., A.S.C., Seabrook Vale, Shorncliff Camp, Kent. (Oct., 1903).
HORTON, L. W., Longfield, Bescot, nr. Walsall. (Sept., 1902).
HOULTON, CHARLES, Laburnum House, Denton's Green, St. Helen's, Lancs. (Nov., 1901).
HOWE, Mrs. JAMES, Moss Lodge, Ashton-under-Lyne, Lancs. (July, 1903).
HOWE, FRANK, 65, Thomas Street, Wellingborough, Northamptonshire. (Feb., 1902).
HUME, JAMES, Hepscott, Morpeth. (June, 1903).
HUMPHRYS, RUSSELL, Southboro', Bickley. (July, 1902).
HYDE & Co., Ltd., R., Harold Street, Camberwell, S.E. (May, 1902).

IDE, HARRY, L.D.S.R.C.S., Eng., Eden Street, Kingston-on-Thames. (June, 1903).

JARDINE, Miss E. L., Lady Superintendent, Freed Slaves Home, Northern Nigeria. (Dec., 1902).

KEENE, Mrs., Sandlea, Abbotsham Road, Bideford. (Nov., 1901).
KESTERMANN, HERMANN, 3, Südstrasse, Greig i. V., Germany. (Feb., 1903).
KEYTEL, P. C., Brighton Castle, Mouille Point, Cape Town. (June, 1903).

LEVERKÜHN, Aulic Counsellor Dr. PAUL, M.D., C.M.Z.S., Director of Scientific Institutions, The Palace, Sophia, Bulgaria. (July, 1903).
LITTLE, Miss C. ROSA, Baronshalt, The Barons, East Twickenham. (Nov., 1902).

LLOYD, CHARLES RICHARD, Church Street, Market Harborough. (Dec., 1902).

MACKIE, D., 33, Argyle Street, Ayr, Scotland. (Sept., 1903).

MARTIN, T. J., High Street, Lowestoft. (Nov., 1903).

MASTER, G., M.B., B.C., 86, Guildhall St., Bury-St.-Edmunds. (Nov., 1903).

MATHIAS, H. W., F.R.H.S., Doone Cottage, Thames Ditton, Surrey. (June, 1903).

McDONAGH, J. E. R., 13, Greencroft Gardens, S. Hampstead, N.W. (Jan., 1903).

McKILL, A. R., Ashfield Lodge, Thorner, nr. Leeds. (Dec., 1902).

McMATH, W., M.D., 6, Camden Place, Cork. (Jan., 1904).

MOORE, Mrs. G. W., Moore House, Finchley Road, St. John's Wood, N.W. (Oct., 1903).

MORSE, D. S., Bank of Ireland, Mount Bellew, Ireland. (Jan., 1904).

MORSHEAD, Lady, Forest Lodge, Binfield, Bracknell, Berks. (Nov., 1901).

MORTIMER, Mrs., Wigmore, Holmwood, Surrey. (Nov., 1901).

MOTTRAM, G. N., L.R.C.P., Stoke Courcey, Bridgwater. (June, 1903).

MILLER, Mrs. K. LESLIE, 27, Belgrave Road, S.W. (Jan., 1904).

MUNN, P. W., Laverstack, Whitchurch, R.S.O., Hants. (Sept., 1903).

MUSGRAVE, M., 96, Brompton Road, London, S.W. (Feb., 1904).

NEWBOULD, T., Oakdene, Linthorpe, Middlesborough. (Dec., 1902).

NEWMAN, T. H., F.Z.S., 20, Montpelier Square, London, S.W. (July, 1902).

NICHOLSON, Miss MARY E., Grove Cottage, Grove Road, Wallasey, Cheshire. (June, 1903).

NICHOLSON, W., 22, Alfred Street, Gateshead. (May, 1903).

OAKEY, W., Cross Keys Hotel, High Cross Street, Leicester. (Orig. Mem.)

OBERHOLSER, HARRY C. 1454, Sheridan Avenue, Washington, D.C., U.S.A. (Dec., 1903).

OLLARD, Mrs. E., Conway, Palace Road, East Molesey, Surrey. (Oct., 1902).

O'REILLY, NICHOLAS S., 9, Royal Crescent, Ramsgate, Kent. (Orig. Mem.)

OSBALDESTON, WILLIAM, 11, Stephenson Terrace, Preston, Lancs. (Orig. Mem.)

PANTIN, CHARLES E., Heathdene, Vanbrugh Park Road East, Blackheath. (Nov., 1903).

PANTON, Miss MAY, 14, King Edward's Road, Oldfield Park, Bath. (June, 1903).

PERKINS, E., Chester Hill, Woodchester, Glos. (Feb., 1903).

PERKINS, SEPTIMUS, 25, Ceylon Place, Eastbourne.

PERREAU, Capt. G. F., 2/4, Gurkha Rifles, Bakloh, Punjab, India. (Dec., 1903).

PERRING, C. S. R., 4, Cambridge Villas, High Street, Teddington. (Oct., 1902).

PERRYMAN, C. W., Bifrons, Farnborough, Hants. (July, 1902).

PHILIP, ANDREW, 240, Stanton Street, Newcastle-on-Tyne. (Nov., 1901).

PICARD, H. K., 10, Sandwell Crescent, W. Hampstead. N.W. (Oct., 1901).

POND, Mrs. T. A., 174, Upper Parliament Street, Liverpool. (Nov., 1902).

PORTE, FRANK C., 28, South Mall, Cork. (Oct., 1902).

PORTEOUS, JAMES T., Deneholme, Hexham. (Sept., 1903).

PYCRAFT, W. P., F.Z.S., M.B.O.U., British Museum (Nat. Hist.) Cromwell Road, S.W. (Sept., 1903).

QUIN, RANDOLPH, 371, Ditchling Road, Brighton. (Oct., 1901).

RESTALL, J. A., 82, Cambridge Street, Birmingham. (Nov., 1903).

RICE, Capt. G., Clayquhat, Blairgowrie, N.B. (July, 1902).

RICHARD, E., Hotel Metropole, Brighton. (Nov., 1901).

ROBERTS, NORMAN B., West Retford Cottage, Retford, Sheffield. (Nov., 1901).

ROGERSON, Mrs., Fleurville, Cheltenham. (Feb., 1903).

ROLLS, A. C., Vancourtland, Wyke Regis, Weymouth. (Oct., 1902).

ROTCH, C. D., 3, Beach Lawn, Waterloo, nr. Liverpool. (Orig. Mem.)

RYCROFT, MARK E., 8, Park Street, Wakefield. (April, 1903).

SALT, THOMAS, L.R.C.P., Yiewsley, Saltley, Birmingham. (July, 1903).

SALTER, A. J., Thame, Oxon. (Nov., 1902).

SAVAGE, A., 3, Rue Bihorel, Bihorel, Rouen, France. (Dec., 1901).

SAYWELL, Miss THEODORA, The College, Bromsgrove, Worcestershire. (Oct., 1902).

SCOTT, Professor W. E. D., 341, Nassau Street, Princetown, New Jersey, U.S.A. (Sept., 1902).

SERVICE, ROBERT, Maxwelltown, Dumfries. (Jan., 1904).

SETH-SMITH, DAVID, F.Z.S., M.B.O.U. 14, Canning Road, Addiscombe. (Nov., 1903).

SILVER, ALLEN, Long Melford, Suffolk. (Oct., 1902).

SKEY, Mrs., 2, Braidwood Terrace, Plymouth. (Nov., 1902).

SMITH, H. B., Grangefield, Park Road South, Birkenhead. (Orig. Mem.

SMITHWICK, Capt. W. F., Youghal House, Nenagh, Ireland. (Dec., 1902).

SPEED, HEDLEY, 12, Victoria Park, Bangor. (Nov., 1901).

SPENCE, F., 7, Holly Street, Durham. (May, 1903).

STANLEY, ROBERT A. N., 40, Fairfield South, Kingston-on-Thames. (Sept., 1903).

STEWARD, REGINALD D., 6, Stanger Road, South Norwood, S.E. (Dec., 1903).

STOREY, JAMES, 7, Blenheim Terrace, St. John's Wood, N.W. (Orig. Mem.)

STRICKLAND, J., Charlecote House, Stoneygate, Leicester. (June, 1903).

SUGGITT, R., Suggitt's Lane, Cleethorpes. (Dec., 1903).

SWAN, J. A., 87, Lower Kennington Lane, S.E. (Oct., 1901).

SWAYSLAND, W., 47, Queen's Road, Brighton. (Orig. Mem.)

TANNER, F. L., L.D.S.R.C.S., Eng., Vanvert House, Guernsey. (Feb., 1904).

THOMPSON, Mrs., The Limes, Hanwell, Middlesex. (June, 1903).

THORNBORROW, THOS. KEMPING, 51, Swinton Street, King's Cross, London. (Sept., 1902).

THWAITES, GEORGE, Dunedin Villa, Northampton Road, Market Harborough. (Feb., 1903).

TIDEY, J. W., 11, York Road, Worthing. (Nov., 1902).

TIGHE, E. J., jun., Merville, Sligo. (Sept., 1902).

TOMASSI BALDELLI, La Contessa G., 4, Via Silvio Pellico, Florence, Italy. (Dec., 1901).

TOWNSEND, S. M., 3, Swift Street, Fulham, S.W. (Orig. Mem.)

TRAVERS, Miss ANNETTE, St. Cloud, Beaupare, co. Meath. (Dec., 1903).

TYSON, GEORGE, Aelagh, Dalkey, Ireland. (Oct., 1903).

VALENTINE, ERNEST, 7, Highfield, Workington. (Mar., 1902).

VERE, The Very Rev. Canon, 21a, Soho Square, W. (Nov., 1903).

WALLACE, JAS. SIM, D.Sc., M.D., C.M., 30a, Wimpole Street, London, W. (Jan., 1904).
WALLOP, The Hon. FREDERIC, 46, South Street, Park Lane, W. (Feb., 1902).
WATTS, Mrs. REGINALD, Filham House, Ivybridge, South Devon. (Dec., 1903).
WARDALE, H., Willington House, Willington Quay, Northumberland. (May, 1903).
WEBB, W., Selwyn House, Brown's Road, Surbiton. (Jan., 1904).
WHEELER, ALFRED, 2, West View Terrace, Droitwich Road, Worcester. (Sept., 1903).
WHITEHEAD, C. H. T., Deighton Grove, York. (June, 1903).
WHITTAKER, T. H., Ravensmere, Marine Drive, Ansdell, Lytham, Lancs. (Dec., 1903).
WIENER, A. F., F.ZS., 6, Northwick Terrace, Maida Vele, N.W. (Nov.. 1901).
WILMOT, The Rev. RICHARD H., Poulton Vicarage, Fairford. (Nov., 1902).
WILSON, Mrs. BELFORD, Greywell, Winchfield. (Nov., 1901).
WILSON, T. N., M.A., Oak Lodge, Bitterne, nr. Southampton. (Jan., 1902).
WINCHILSEA and NOTTINGHAM, The Countess of, Harlech, Merioneth. (June, 1903).
WOODHOUSE, C. W., 43, St. Michael's Road, Bedford. (July, 1903).
WOOLSTON, T., 22, Wilson Street, Middlesborough. (Oct., 1903).
WROTTESLEY, The Hon. WALTER B., F.Z.S,, 8, Herbert Crescent, S.W. (Dec., 1902).

YALLOP, F. J., 85, Prince of Wales Road, Norwich. (July. 1902).
YOUNG, WILLIAM, Taw Vale, Barnstaple. (Nov., 1903).

March, 1904.

Roll of Associates.

BATHE, FRANK, 5, Montgomery Road, Sharrow, Sheffield. (June, 1903).
BIDE, ARTHUR R., Highlands, Guildford Road, Farnham, Surrey. (June, 1903).
BRELSFORD, JOHN, 75, Wellington Road North, Stockport. (Oct., 1893).
BURGE, S., Ivy Cottage, Fairford. (Nov., 1901).
BUTLER, Miss BEATRICE, Hans Crescent Hotel, Sloane Street, London, S.W. (Dec., 1903).

CHAPLIN, E. W., The Firs, Great Amwell, Herts. (Sept., 1903).
COLLIER, Miss C. L., 119, King Henry's Road, South Hampstead. (June, 1902).
CURTIS, Mrs. D. W., Market Place, Stowmarket. (Sept., 1902).

DESPREZ, A. H., 6, Holmwood Grove, Newcastle-on-Tyne. (Oct., 1903).

HALLIDAY, CHARLES, Bridge Street, Banbridge, co. Down. (June, 1903).
HARRIS, CHARLES, 15, Clayton Street, Newcastle-on-Tyne. (Oct., 1902).
HARTON, Miss E., 53, Goldhurst Terrace, South Hampstead, N.W. (Nov., 1903).
HENTSCH, W. J., Douglas Villa, Acacia Grove, New Maldon, Surrey. (Jan., 1904).
HINCKS, Miss E. M., Terrace House, Richmond, Yorks. (Jan., 1903).
HOWMAN, Miss, Sherwood, Essex Grove, Upper Norwood, S.E. (Nov., 1901).
HULTON, Mrs., Hulton Park, Bolton-le-Moors. (June, 1903).

JONES, ARTHUR, 71, Harrowgate Road, S. Hackney. (Nov., 1901).

MARSHALL, Mrs., Ashley Warren, Walton-on-Thames. (Dec., 1903).
MCADAM, Mrs. J., 24, Cambridge Terrace, Hyde Park, W. (June, 1903).
MOSS, GEORGE, 51, Wellington Street, Loughborough. (Nov., 1902).
MOXON, GEO. W., Bretton West, Wakefield. (Jan., 1904).
MITCHELL, H., Duchy Court, Harrogate, (Sept., 1903).

PENGELLEY, CHARLES H. C., Bridge House, Hollywell, St. Ives, Hunts. (Oct., 1903).

SEVASTOPULO, Mrs. G. D., 133, Gloucester Terrace, Hyde Park, London, W. (Oct., 1901).
SHARP, H. S., Heathfield, Bingley, Yorks. (Nov., 1901).
SLATTER, A. C., 17, Commercial Street, Hereford. (July, 1903).
STACY-MARKS, Mrs. V., Westbury, Berrylands Road, Surbiton, (Dec., 1903).

TWEED, H. R. B., B.A. (Oxon.), Laindon Frith, Billericay. (June, 1903).

WADDELL, Miss PEDDIE, Balquhatstone, Slammannen, Stirlingshire, N.B. (July, 1903).
WALTON, GEORGE, Thirlmere, viâ Grasmere, Cumberland. (Jan., 1903).
WILDE, Miss MAUDE, Little Gaddesden, Berkhampstead. (Nov., 1901).
WILSON, H. B., Angleham, Rosebery Crescent, Newcastle-on-Tyne. (Dec., 1903).

MARCH. 1904.

The Foreign Bird Club.

NOTICES TO MEMBERS.

All subscriptions are now due, and Members and Associates are requested to forward them to the Treasurer at their early convenience. Subscriptions should not be sent to me.

The cases for binding are now ready, and will be forwarded post free on receipt *by me* of 1/2.

The prize in the *Bird Notes* Prize Competition was awarded to Dr. Creswell by a large majority of votes.

With regard to the recent Election of Council and Officers it is worth recording that 104 voting papers were received by the Scrutineer. The fact that so large a proportion of members recorded their votes seems to show that our popular method of government is appreciated.

I am glad to be able to announce that in future queries relating to the treatment of Parrots and Parrakeets will be answered by Mr. H. T. T. Camps, and those relating to insectivorous and fruit-eating birds by Mr. Russell Humphrys. The queries should be sent to these gentlemen direct. Mr. Camps' address is Haddenham, Isle of Ely, and Mr. Humphrys' is "Southborough," Bickley, Kent. Both Mr. Camps and Mr. Humphrys have an unequalled experience with the class of birds on which they have undertaken to advise.

The growth of the Club has added so largely to my work that I am desirous, if possible, of finding someone who will relieve me of some of my duties. I should be very glad to hear from any gentlemen willing to accept the post of Hon. Assistant Secretary, in order that I may bring their names before the Council. It is desirable that an Assistant Secretary, if appointed, should be possessed of plenty of spare time and some business experience, and it is essential that he should be willing to devote some hours a week to the work.

The following further donation towards the coloured plate which appeared last month has been received :

	£	s.	d.
Already acknowledged	7	5	0
Captain Perreau	0	4	6
	£7	9	6

Horatio R. Fillmer, *Hon. Editorial Secretary,*
15th March, 1904. 52, Ship Street, Brighton.

NEW MEMBERS ELECTED.

F. L. Tanner, L.D.S.R.C.S., Eng., Vauvert House, Guernsey.
M. Musgrave, 96, Brompton Road, London, S.W.

PROPOSED FOR ELECTION AS A MEMBER.

Miss Curtis, Kearsney Abbey, Dover. *By Mrs Divett.*

PROPOSED FOR ELECTION AS AN ASSOCIATE.

S. H. Snell, M.D., Gloucester Lodge, 261, Trinity Road, Westminster, S.W. *By Mr. Fillmer.*

◆

THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Editorial Secretary by the 10th of the month.

Lady Dunleath has two Silver cock Pheasants, four Silver hens, one Golden cock, one Golden hen—all 1903—for sale, 10/6 each.

Address, Housekeeper, Ballywalter Park, co. Down.

REPORT OF THE COUNCIL FOR THE YEAR 1903-4.

THE past year has been a very eventful one in the history of the Club. The collaboration with the British Bird Club in the management of *Bird Notes* having been somewhat abruptly terminated by a notice from the other Club, it became necessary for us to take steps to meet the difficulties which arose through the dissolution of partnership.

In the belief that the large majority of the members would prefer to pay a little more rather than that *Bird Notes* should be checked in its hitherto uninterrupted advance, we recast the rules and divided the Club into Members and Associates, all of whom are asked to pay a subscription slightly in advance of that previously charged. As far as we can tell at present this policy has been a success.

The hand-coloured plates, of which an example was presented to all our members with the February issue of *Bird Notes*, are intended to be a permanent feature of the Magazine. At least four of these will be issued in Volume III. Uncoloured copies of the lithographs will be supplied to Associates. These plates are all from drawings by Mr. H. GOODCHILD, and are produced under his personal supervision. Each copy of the February plate supplied to members was initialed by Mr. Goodchild as a guarantee of its accuracy, and therefore possesses a value of its own.

One hundred and fifteen persons joined the Club during the year, in spite of the fact that the year consisted of ten months only. This was a considerable increase on the numbers of the previous year. The alterations in the rules and other changes have led to a good many resignations of membership, and we look to the members to do all in their power to secure recruits for the Club, so that our numbers may be not merely maintained but largely increased.

The best thanks of the Club are due to Mr. McDONAGH for his work as Scrutineer, and to Mr. BULLOCK-WEBSTER for his services as Auditor.

CLAUDINE ANNINGSON.
M. E. BAKER.
REGINALD E. P. GORRINGE.
W. GEO. CRESWELL.
HORATIO R. FILLMER.
W. OAKEY.

W. P. PYCRAFT.
J, STOREY.
J. A. SWAN.
S. M. TOWNSEND.
W. B. WROTTESLEY.

The Foreign Bird Club.

NOTICES TO MEMBERS.

ALL subscriptions became due on the 1st of March, and those not already paid should be sent *forthwith* to the Hon. Treasurer, the Hon. W. B. Wrottesley, 8, Herbert Crescent, S. W. Subscriptions should not be sent to the Hon. Secretaries.

Our next issue will contain one of Mr. Goodchild's plates, which will be hand-coloured in the copies supplied to members. I regret that it has not been possible to publish this plate earlier.

One or two copies of a card setting forth the objects of the Club are sent herewith. They may be found useful in obtaining new members. I shall be pleased to send a further supply on application.

HORATIO R. FILLMER, *Hon. Editorial Secretary,*
15th April, 1904. 52, SHIP STREET, BRIGHTON.

NEW MEMBER ELECTED.

Miss CURTIS, Kearsney Abbey, Dover.

NEW ASSOCIATE ELECTED.

S. H. SNELL, M.D., Glenshee Lodge, 261, Trinity Road,
Wandsworth, S.W.

PROPOSED FOR ELECTION AS AN ASSOCIATE.

Mrs. HORACE MARTIN, 13, Hillside, Wimbledon, Surrey.
By Dr. Creswell.

◆

REPORT OF THE SHOW COMMITTEE FOR THE YEAR 1903-4.

THE season which has just closed has marked a great increase in the influence of the Club in Show circles, and we believe a steady forward movement in encouraging foreign bird exhibiting generally. Fifteen Shows have been supported, as against ten in the previous year, and we hope this number will be again increased next season.

Our efforts to inaugurate a Foreign Bird Section at the Crystal Palace worthy of the Club and the interests we represent, secured a certain amount of success, though not so great as we anticipated. We trust the coming year will find our Section of the Amalgamated Show recognised as *the* Show for foreign birds, and be supported by Exhibitors accordingly. We take this opportunity of sincerely thanking those members and friends who helped us in offering Special Prizes, and also our Judges for their public-spirited policy in placing their services gratuitously at the disposal of this Committee.

CLAUDINE ANNINGSON.
W. OAKEY.
J. A. SWAN.
S. M. TOWNSEND.

THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Editorial Secretary by the 10th of the month.

Lady DUNLEATH has two Silver cock Pheasants, four Silver hens, one Golden cock, one Golden hen—all 1903—for sale, 10/6 each.
Address, Housekeeper, Ballywalter Park, co. Down.

Wanted—Young Black-headed Gouldian, hen; also a pair of Turquoisines.
Mrs. MORTIMER, Wigmore, Holmwood, Surrey.

Part of a private importation from S. Africa — Pair Cape Sparrows (*Passer arcuatus*), pair Pin-tailed Whydahs, pair St. Helena Seed-eaters (*Serinus flaviventris*). All in perfect health. H. R. FILLMER.

Macaw, Cockatoo, Military Troupial, Pope Cardinal, cock Saffron Finch, Spice-bird, Avadavat, Tricoloured Mannikin, pair Red-headed Buntings, pair Grey Javas. Outdoor aviary all winter. Particulars.
GEORGE MOSS, Loughborough.

Seven Bicheno's Finches, 8/- each or 53/- the lot; one Pintail Nonpareil hen, 8/-.
N. S. O'REILLY, 9, Royal Crescent, Ramsgate, Kent.

The Foreign Bird Club.

NOTICES TO MEMBERS.

The attention of members and associates is called to the following extract from Rule 2,—

> "**Subscriptions shall be due and payable "in advance on the first of March in each "year. If any member's or assoicate's subscription "shall be more than three months overdue he shall "be suspended from all benefits of the Club. . . .**"

In accordance with this rule, no further issues of "BIRD NOTES" will be forwarded to those who have not yet paid their subscriptions, until payment.

The member's subscription is 10/-, and the associate's 6/- All subscriptions should be paid to the Treasurer, the Hon. W. B. Wrottesley, 8, Herbert Cresent, S.W.

I can still supply cases for binding Vol. II. of "BIRD NOTES," for 1/2 post free.

HORATIO R. FILLMER, *Hon. Editorial Secretary,*
15th May, 1904. 52, SHIP STREET, BRIGHTON.

NEW ASSOCIATE ELECTED.

Mrs. HORACE MARTIN, 13, Hillside, Wimbledon, Surrey.

PROPOSED FOR ELECTION AS MEMBERS.

W. BAMFORD, Shorelea, Oldham. *By Mr. Fillmer.*
W. H. PICKLES, Stoneyhurst, Morecambe, Lancs. *By Mr. Fillmer.*

PROPOSED FOR ELECTION AS AN ASSOCIATE.

Miss GORDON, 29, Elgin Crescent, Notting Hill, London. *By Mrs. McAdam.*

THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Editorial Secretary by the 10th of the month.

Part of a private importation from S. Africa — Pair Cape Sparrows (*Passer arcuatus*), pair Pin-tailed Whydahs. All in perfect health. H. R. FILLMER.

Wanted—a pair of Cockatiels, from outdoor aviary.
L. W. HORTON, Longfield, Bescot, Walsall,

◆

POST-MORTEM EXAMINATIONS.

The conditions upon which these will be made by Dr. CRESWELL, Eden Lodge, Kingston-on-Thames, are as follows.

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(N.B. Unless the above conditions are complied with the package will be destroyed without examination).

(4) The letter must detail *as far as possible* all particulars as to (*a*) date of death,
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(*e*) especially as to whether egg food or inga seed has been given.

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The Foreign Bird Club.

NOTICES TO MEMBERS.

If there are any members who have paid their subscriptions and yet have not received the coloured plate issued last month, I shall be much obliged if they will let me know.

I have purposely refrained from entering into any explanation, in print, of the circumstances which led up to the dissolution of partnership with the N. B. B. & M. C. in the proprietorship of *Bird Notes*—but the facts are known to, and understood by, the members of our Council who attended the Council meeting at the Crystal Palace in December. I regret that a like reticence has not been observed by the other Club, and that in their Annual Report, recently issued, the Committee of the N. B. B. & M. C. have thought fit to publish an incorrect and misleading statement of the events which preceded the separation. I do not intend to be drawn into any controversy upon the subject, but feel obliged to mention it here in order to warn our members against accepting the *ex parte* statement of our *quondam* partners as true.

I can still supply cases for binding Vol. II. of *Bird Notes* for 1/2 post free.

Bound copies of Vol. II. are now for sale, price 7/6 to members and associates, and 10/6 to others.

HORATIO R. FILLMER, *Hon. Editorial Secretary*,
15th June, 1904. 52, SHIP STREET, BRIGHTON.

NEW MEMBERS ELECTED.

W. BAMFORD, Shorelea, Oldham.

W. H. PICKLES, Stoneyhurst, Morecambe, Lancs.

MEMBER RE-JOINED

The Hon. M. C. HAWKE, Wighill Park, Tadcaster.

NEW ASSOCIATE ELECTED.

Mrs. GORDON, 29, Elgin Crescent, Notting Hill, London.

PROPOSED FOR ELECTION AS MEMBERS.

ERNEST W. BEECH, 32, Lincoln Road, Peterborough.
By the Rev. R. E. P. Gorringe.

J. T. SAPSFORD, Stanley Road, Teddington.

J. F. JONES, C.M.G., 41, Hatfield Road, St. Albans.

FREDERICK T. DEARING, 32. Thames Street, Kingston-on-Thames.
By Dr. Creswell.

Mrs. MELLOR, Fair Lawn, Lytham, Lancs. *By Mr. Fillmer.*

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THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Editorial Secretary by the 10th of the month.

Pairs—Half-moon Conures 18/-, Blue Grosbeaks 22/-, Wells' Dove 20/-; cock Picui Dove 5/6. All acclimatised and in fine condition. Miss ALDERSON, Worksop.

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POST-MORTEM EXAMINATIONS.

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Foreign Bird Club. — Balance Sheet 1903-1904.

Receipts.

	£	s.	d.
Balance, year ending April 1903	0	4	4
Subscriptions for year 1903 to 1904 (266 at 5/-)	66	10	0
Sales of Vol. I. of *Bird Notes*	4	18	0
,, Numbers of Vol. II.	2	15	0
Straw Boards	0	1	0
Subscriptions towards Coloured Plate in February number	7	15	0
N. B. B. & M. C., Share of cost of Printing *Bird Notes*	25	0	3
For Illustrations to accompany articles in *Bird Notes*	0	15	5
Trade Advertisements	5	2	6
Members' Bird Market Advertisements	0	10	11
Balance	25	11	1
	£139	3	6

Expenditure.

	£	s.	d.
Moulton—Printing *Bird Notes*, April to February	84	18	0
Stationery and Miscellaneous Printing	11	14	6
Postage Account	23	4	9
Cost of Medals (Restall)	3	15	0
Drawings and Blocks for Illustrations in *Bird Notes*	4	7	11
Prize *re Bird Notes* Prize Competition	1	1	0
Expenses *re* issuing Coloured Plate, in February number of *Bird Notes*	8	3	6
Cheque Book	0	2	6
Bindings for *Bird Notes*	1	12	4
	£139	3	6

Examined and found correct,

A. BULLOCK-WEBSTER, *Hon. Auditor.*

W. B. WROTTESLEY, *Hon. Treasurer.*

The Foreign Bird Club.

NOTICES TO MEMBERS.

A MEETING of the Council was held at the residence of the Hon. Treasurer on the 23rd June at which the following were present,—The Countess of Winchilsea and Nottingham, Mrs. Anningson, the Hon. W. B. Wrottesley, Dr. Creswell, and Messrs. Pycraft, Silver, Swan, Townsend, and Fillmer.

A subscription list has been opened to defray the deficit on last year's accounts. The following sums have been already given or promised:

	£	s.	d.
The Countess of Winchilsea	1	1	0
Mrs. Anningson	1	1	0
The Hon. W. B. Wrottesley	1	1	0
Dr. Creswell	1	1	0
Dr. Clarke	1	1	0
Mr. Swan	1	1	0
Mr. Townsend	1	1	0
Mr. R. Humphrys	1	1	0
Dr. Chamberlain	0	10	6
Mr. Camps	0	10	6
Omega	0	10	0
	£9	19	0

The Treasurer or I would be glad to receive further contributions to this fund.

A member has offered to guarantee one-tenth of any possible deficit on *this* year's accounts, provided nine others will do the same. It has been decided to limit the liability of each guarantor to £2 2s. Four other gentlemen have agreed to join in the guarantee on these terms: five more names are required. The officers of the Club would be glad to hear from any members willing to join in the guarantee.

The August issue of *Bird Notes* will be suspended—thus following the precedent of previous years. Consequently Dr. Creswell will not undertake *post mortems* between this date and the 15th of August, except in cases where a report by post is desired and the fee of 2/6 is paid.

Mr. Woodhouse has gone to reside in Canada and has consequently resigned his seat on the Council. Dr. W. T. Greene has been elected in his place under Rule 13. The Hon. W. B. Wrottesley has been elected to the vacancy on the Magazine Committee.

HORATIO R. FILLMER, *Hon. Editorial Secretary,*
15th July, 1904. 52, SHIP STREET, BRIGHTON.

NEW MEMBERS ELECTED.

ERNEST W. BEECH, 32, Lincoln Road, Peterborough.
J. T. SAPSFORD, Stanley Road, Teddington.
J. F. JONES, C.M.G., 41, Hatfield Road, St. Albans.
FREDERICK T. DEARING, 32, Thames Street, Kingston-on-Thames.
Mrs. MELLOR, Fair Lawn, Lytham, Lancs.

POST-MORTEM EXAMINATIONS.

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THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Editorial Secretary by the 10th of the month.

For sale—Hen Gouldian Finch (red cap) acclimatised and in perfect condition, price 12/-.
Mrs. MILLER, 27, Belgrave Road, London, S.W.

The Foreign Bird Club.

NOTICES TO MEMBERS.

If there are any members who have paid their subscriptions, and yet have not received the coloured plate issued in May, I shall be much obliged if they will apply for it. And if any members or associates have, by any chance, failed to receive any of the issues, I shall always be pleased to make good the deficiency on receipt of a post card. But it should be remembered that BIRD NOTES *is not published in August*—consequently it is of no use to apply to me for the August number, as a good many do every year.

If this should come under the notice of Mr. EDGAR CHAMBERLAIN, will he kindly send me his address? A member of our Club has a letter for him.

HORATIO R. FILLMER, *Hon. Editorial Secretary.*
15*th September*, 1904. 52, SHIP STREET, BRIGHTON.

DEFICIT FUND.

	£	s.	d.
Subscriptions previously announced ..	9	19	0
Mr. Henry Dart	1	1	0
	£11	0	0

£14 11s. 1d. is still required to balance last year's accounts.

PROPOSED FOR ELECTION AS MEMBERS.

SURA PRATAP MAHINDRA BAHADUR, Raja of Dhenkanal, Orissa, Bengal, India. *By Mr. Fillmer.*

F. CARL, 6. Red Lion Court, Fleet Street, E.C.

JOSIAH NORTH, 314, Oxford Road, Reading. *By Dr. Creswell.*

A. R. T. MOMBER, La Tuinia, San Remo. *By Mr. Pycraft.*

W. JEFFS, Cromwell Villa, Victoria Road, Darlaston. *By Mr. Horton.*

PROPOSED FOR ELECTION AS AN ASSOCIATE.

Mrs. WRIGHT, New Brook, Atherton, Manchester. *By Mrs. Hulton.*

THE FORTHCOMING SHOW SEASON.

The Show Committee have granted the Club's Medals to the following Shows up to the present date. Grants to other Shows will doubtless be made, and these will be duly announced.

The Show Committee hope that all members will do their best to support the Shows to which the Club Medals are granted, and thus encourage Shows to give better classification for foreign birds. Attention is called to the L. & P. O. S. Autumn Show at the Crystal Palace, as they are having a classification for nine classes for the first time, which is decidedly a step in the right direction. Members exhibiting are specially asked to put F.B.C. *after each entry.*

L. & P. O. S. (Crystal Palace). Oct. 25th, 26th, and 27th. Classification for nine classes. One Silver and two Bronze Medals. Judge, Mr. Swaysland. Schedules from Mr. H. Lambert Brown, 64, Manor Park, Lee, S.E.

Manchester. Oct. 28th and 29th. Classification for three classes. One Bronze Medal. Judge, Mr. C. Houlton. Schedules from Mr. G. W. F. Lythgoe, 25, Stamford Street, Old Trafford, Manchester.

Bridgwater. Nov. 10th and 11th. Classification for five classes. One Bronze Medal. Judge, Mr. C. A. House. Schedules from Messrs. H. J. Brown and A. H. Proctor, 30, High Street, Bridgwater, Somerset.

Nottingham. Open Show. Nov. 19th and 21st. Classification for four classes. One Bronze Medal. Judge, Mr. C. Houlton. Hon. Sec. Mr. G. Wilkinson, 9, Wellington Square, Park Side, Nottingham.

S. M. TOWNSEND, *Hon. Exhibitional Secretary.*
3, Swift Street, Fulham, S.W.

THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Editorial Secretary by the 10th of the month.

Eight Cygnets for sale, three months old, £1 each.
Estate Office, Whitechurch, Hants.

All from outdoor aviaries—Hens: Pennant 30/-, Adelaide 32/6, Rosellas 20/-: cock Barnard 30/-; Cockatiels 10/6 pair; Golden Pheasant poults 10/6 each. Salter, Thame.

Wanted: Senegal Parrot, male Grey Wagtail, and male Blue Robin. Dr. Creswell.

The Foreign Bird Club.

NOTICES TO MEMBERS.

A MEETING of the Council will be held at the Crystal Palace on Tuesday the 25th of October. Members of the Council who wish any special matter to be placed upon the agenda are requested to communicate with me at once. Further details of place and time of meeting will be forwarded later. Any members who wish to bring any subject under the attention of the Council are invited to do so by letter—or, by previous arrangement, can attend personally before the Council.

HORATIO R. FILLMER, *Hon. Editorial Secretary.*
15*th October*, 1904. 52, SHIP STREET, BRIGHTON.

DEFICIT FUND.

	£	*s.*	*d.*
Subscriptions previously announced ..	11	0	0
Mr. J. E. R. McDonagh	0	5	0
Mr. E. Richard	0	10	0
Miss E. Brooksbank	0	2	6
	£11	17	6

£13 13s. 7d. still required.

NEW MEMBERS ELECTED.

SURA PRATAP MAHINDRA BAHADUR, Raja of Dhenkanal, Orissa, Bengal, India.

F. CARL, 6. Red Lion Court, Fleet Street, E.C.

JOSIAH NORTH, 314, Oxford Road, Reading.

A. R. T. MOMBER, La Tuinia, San Remo.

W. JEFFS, Cromwell Villa, Victoria Road, Darlaston.

NEW ASSOCIATE ELECTED

Mrs. WRIGHT, New Brook, Atherton, Manchester.

PROPOSED FOR ELECTION AS A MEMBER.

Mrs. CHETWYND, The Hawthorns, Raglan Road, Smethwick, Birmingham. *By Dr. Creswell.*

THE SHOW SEASON

Medals have been granted to the following Shows in addition to those already announced:

Norwich. Silver medal.

Preston. Silver medal.

Bridgwater. Nov. 10th and 11th. F. B. C. classification for four classes. One bronze medal. Judge, Mr. C. A. House. Schedules from Messrs. H. J. Brown and A. H. Proctor, 30, High Street, Bridgwater, Somerset.

Cambridge. Nov. 30th and Dec. 1st. Classification for seven classes. One silver and one bronze medal. Judge, Mr. H. T. T. Camps, F.Z.S. Schedules ready Nov. 1st. from Mr. Walter Driver, Hon. Sec., 17, Sussex Street, Cambridge.

S. M. TOWNSEND, *Hon. Exhibitional Secretary,*
3, SWIFT STREET, FULHAM, S.W.

REGULATIONS AS TO THE CLUB SHOW MEDALS

MADE BY THE SHOW COMMITTEE OF THE COUNCIL.

1.—All medals shall be given for POINTS. which are to be counted as follows: C. 1; H. C. 2; and one number higher for each higher award.

2.—Extra prizes shall count for points, and *all* entries compete (except as provided in Rule 9).

3.—Subject to a special resolution of the Committee to the contrary, when two medals are given at the same show, the second shall be for the next highest points to the winner of the first.

4.—Members exhibiting at shows where Club medals are given are asked to place the initials "F. B. C." after each entry in the entry form, and to request the Secretary to insert the same in the show catalogue.

5.—No member shall win more than two medals in one season, one silver and one bronze; or more than one medal at the same show.

6.—No medal shall be given at any show unless the classification and the name of the Judge be first submitted to and approved by the Committee. Preference shall be given to shows at which the Club's classification is adopted and one of the Club's Judges appointed.

7.—No medal shall be given at any show where less than THREE classes for foreign birds are provided, and no silver medal where less than SIX classes. (The Show Committee reserve the right of waiving this number at their discretion).

8.—In the case of a tie the exhibitor taking most money in prizes shall win, and if there still be a tie the exhibitor with most entries shall win.

9.—Medals shall be given at OPEN SHOWS only, and points in Members' classes shall not be counted.

10.—No medal shall be awarded at any show unless at least THREE members compete.

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THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Editorial Secretary by the 10th of the month.

Eight Cygnets for sale, four months old, £1 each.
Estate Office, Laverstoke Park, Whitchurch, Hants.

Pair Cape Sparrows (*Passer arcuatus*) 7/6. pair Diamond Sparrows 10/-. Or exchange. H. R. FILLMER.

Pure Golden Pheasants, 1903 cocks 18/6, 1904 cocks 7/6 and 9/- each; aviary-bred Budgerigars 4/6 pair. Wanted, exchange cock Cockatiel for hen. CHAPLIN, Answell, Herts.

Cock Orange Bishop almost full colour 6/6, cock and 5 hen Red-billed Weavers 10/- the six, have been in my outdoor aviary fifteen months, perfect condition; about 40 young Hartz Mountain Canaries, bred for two generations in outdoor aviary, parents out all last winter, 10/- pair, the cocks are in full song.
R. SUGGITT, Suggitt's Lane, Cleethorpes.

POST-MORTEM EXAMINATIONS.

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The Foreign Bird Club.

NOTICES TO MEMBERS.

MR. C. CASTLE-SLOANE, F.Z.S. has been elected to the Council, under Rule 13, in place of Mr. Allen Silver, resigned.

At the present time the chief, I might say the only, difficulty of the Club is the financial one. This could best be solved by a rapid increase in membership—and it would be well for all to bear in mind that they cannot more effectually serve the interests of the Club in any way, at this juncture, than by the introduction of new members and associates.

HORATIO R. FILLMER, *Hon. Editorial Secretary.*
15*th November*, 1904. 52, SHIP STREET, BRIGHTON.

DEFICIT FUND.

	£	s.	d.
Subscriptions previously announced ..	11	17	6
Lady Dunleath	1	1	0
Mr. C. Castle-Sloane	3	3	0
Dr. Hopkinson	1	1	0
Mr. A. F. Wiener	1	0	0
Mr. Franz	0	10	0
Mr. A. Wheeler	0	10	0
	£19	2	6

£6 8s. 7d. still required.

NEW MEMBERS ELECTED.

Mrs. CHETWYND, The Hawthorns, Raglan Road, Smethwick, Birmingham.

PROPOSED FOR ELECTION AS MEMBERS.

Rev. C. D. FARRAR, Micklefield Vicarage, Leeds; and
Miss M. GIBBONS, Boddington Manor, Cheltenham.
By Mr. Fillmer.
Dr. MAX M. TRECHMANN, 131, St. George's Road, S.W.
By Mr. Townsend.

PROPOSED FOR ELECTION AS AN ASSOCIATE.

Miss CONSTANCE LEE, Budleigh Salterton, R. S. O., Devon.
By Mr. Fillmer.

THE SHOW SEASON.

Medals have been granted to the following Show, in addition to those already announced:

Cambridge. Nov. 30*th and Dec.* 1*st.* Classification for seven classes. One silver and one bronze medal. Judge, Mr. H. T. T. Camps, F.Z.S. Schedules from Mr. W. Driver, Hon. Sec., 17, Sussex Street, Cambridge.

I should like to inform exhibiting members that some medals this year have not been awarded, as there were not three members competing.

If any member has any suggestion to make respecting the awarding of medals, with the object of making foreign bird exhibiting more popular, I shall be very glad if they will open a discussion on the matter.

S. M. TOWNSEND, *Hon. Exhibitional Secretary,*
3, SWIFT STREET, FULHAM, S.W.

POST-MORTEM EXAMINATIONS.

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DECEMBER, 1904.

The Foreign Bird Club.

NOTICES TO MEMBERS.

As I find that I can no longer spare the necessary time for the work, I have reluctantly come to the decision not to stand for re-election to my present office in the Club, after the expiration of the current year in February next. Although this intention of mine has been known to the Council, and to a good many of the members, for some months past, no one willing to be my successor has yet come forward. Any members willing to undertake all or part of the secretarial duties are invited to communicate with me at once.

HORATIO R. FILLMER, *Hon. Editorial Secretary.*
15*th December*, 1904. 52, SHIP STREET, BRIGHTON.

NEW MEMBERS ELECTED.

Rev. C. D. **FARRAR**, Micklefield Vicarage, Leeds.
Miss M. **GIBBONS**, Boddington Manor, Cheltenham.
Dr. **MAX M. TRECHMANN**, 131, St. George's Road, S.W.

NEW ASSOCIATE ELECTED.

Miss **CONSTANCE LEE**, Budleigh Salterton, R. S. O., Devon.

PROPOSED FOR ELECTION AS MEMBERS.

C. L. **RIHL**, 38, E. Logan Street, Philadelphia, U.S.A. *By Dr. Creswell.*
Mrs. D. E. **HUBBARD**, Casa Sta. Monica, Bordighera, Italy. *By Mr. Fillmer.*
WILL TRUE, 74, Comeragh Road, London, W. *By Mr. Townsend.*
H. G. E. **DENMAN**, 157, Chatham Street, Old Kent Road, London. *By Mr. Franz.*

THE SHOW SEASON.

Medals have been granted to the following Shows in addition to those already announced.

St. Helen's. January 6th and 7th, 1905. Classification for four classes. One bronze medal. Judge, Mr. C. Houlton. Schedules from Mr. W. Rigby, 31, Greenfield Road, St. Helen's.

L. & P. O. S. (Crystal Palace). January 13th, 14th, 16th and 17th, 1905. Classification for eight classes. One silver medal and one bronze medal. Judges, Messrs. H. T. T. Camps and Russell Humphrys. Schedules from Mr. H. Lambert Brown, 64, Manor Park, Lee, S.E.

S. M. TOWNSEND, *Hon. Exhibitional Secretary,*
3, SWIFT STREET, FULHAM, S.W.

POST-MORTEM EXAMINATIONS.

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JANUARY, 1905.

The Foreign Bird Club.

NOTICES TO MEMBERS.

I REGRET that owing to an unavoidable delay we are without the coloured plate which should have accompanied this issue. It will appear next month instead. In the new Volume, commencing in March, it is hoped to increase the number of coloured plates.

With this issue of BIRD NOTES each member should receive a voting paper for the election, and an envelope in which to forward it to the Scrutineer. If any members should fail to receive this voting paper will they please apply to me for one at once?

The Scrutineer is Mr. L. W. HORTON, Longfield, Bescot, near Walsall, and he must receive the votes before the 5th of February. The paper *must be signed.*

I have, at the special request of the Council, consented to be re-elected to the office of Secretary, on the understanding that I shall be forthwith relieved of all responsibility for the publishing and distribution of BIRD NOTES, and that another Secretary be appointed, as soon as possible, who will undertake the General Secretaryship of the Club, and leave me simply the Editorship of BIRD NOTES. So far no member willing to accept the General Secretaryship has come forward, and for the present I must continue to be both General and Editorial Secretary. I am very anxious to be relieved of the General Secretaryship, and should feel most grateful to any member who would undertake the office. Mr. Townsend, who has so ably filled the office of Exhibitional Secretary during the past year, is also standing for re-election.

Mr. C. H. C. PENGELLEY has kindly undertaken to assist me for a time with the Secretarial work.

HORATIO R. FILLMER, *Hon. Editorial Secretary.*
25*th January*, 1905. 52, SHIP STREET, BRIGHTON.

NEW MEMBERS ELECTED.

C. L. RIHL, 38, E. Logan Street, Philadelphia, U.S.A.
Mrs. D. L. HUBBARD, Casa Sta. Monica, Bordighera, Italy.
WILL. TRUE, 74, Comeragh Road, London, W.
H. G. E. DENMAN, 157, Chatham Street, Old Kent Road, S.E.

PROPOSED FOR ELECTION AS A MEMBER.

ALEXANDER CUMMINGS, University House, The Promenade, Cheltenham. *By Mr. Fillmer.*

THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Editorial Secretary by the 10th of the month.

Mrs. Leslie Miller has a young Crested Cardinal for sale, just beginning to sing. 27, Belgrave Road, London, S.W.

Wanted—true pairs Wonga-Wonga, Nicobar, Bleeding-heart, and other Pigeons in exchange for Australian Crested Pigeons, White-fronted Doves, Rufous Doves, and Talpacoti Dove—all aviary-bred.

C. Castle-Sloane, Oat Hall, Near Crawley, Sussex.

Two cock Cockatiels 5/- each, two Rosella hens 15/- each, cock Virginian Cardinal 15/-, cock Zebra Finch 2/-. All aviary-bred last year. James Hume, Hepscott, Morpeth.

POST-MORTEM EXAMINATIONS.

The conditions upon which these will be made by Dr. Creswell, Eden Lodge, Kingston-on-Thames, are as follows:

(1) The birds must be sent IMMEDIATELY after death.

(2) They *must* be packed in a box.

(3) *The letter accompanying them must* NOT *be placed in the box along with the birds.*

(N.B. Unless the above conditions are complied with the package will be destroyed without examination).

(4) The letter must detail *as far as possible* all particulars as to (*a*) date of death,
(*b*) length of illness,
(*c*) symptoms of illness,
(*d*) lodgement and feeding of birds, and
(*e*) especially as to whether egg food or inga seed has been given.

(5) The work will be done gratuitously, and a report published in "Bird Notes," but *under no circumstances whatever will either advice or report be sent by post unless a fee of* 2/6 *accompanies the letter and bird.* Pressure of work compels Dr. Creswell to make this an invariable rule, and it applies to all members whether they are personally acquainted with him or not.

The Foreign Bird Club.

NOTICES TO MEMBERS.

Special attention is invited to the Note by Mr. Goodchild printed below. I fear that our members do not sufficiently appreciate what the Artist is doing for *Bird Notes*, nor understand how greatly the value of the coloured plates is enhanced by their being signed.

The result of the Elections will be seen from the Scrutineer's report. Forty-four members voted.

All subscriptions become due on the first of March. In future no copies of *Bird Notes* will be forwarded until the current year's subscription has been paid.

Horatio R. Fillmer, *Hon. Editorial Secretary.*

25*th February*, 1905. 52, Ship Street, Brighton.

NEW MEMBER ELECTED.

Alexander Cummings, University House, The Promenade, Cheltenham.

PROPOSED FOR ELECTION AS MEMBERS.

P. Johnson, "Arnside," Swinton, Manchester.
By Mr. Townsend.

Mrs. de Courcy Laffan, 119, St. George's Road, S.W.
By Dr. Trechmann.

RESULT OF ELECTION OF OFFICERS—1905-6.

Secretaries: H. R. Fillmer and S. M. Townsend.

Treasurer: The Hon. W. B. Wrottesley.

Council:

	Votes.		*Votes.*
Dr. W. G. Creswell ..	41	H. T. T. Camps ..	27
Mrs. Anningson ..	33	J. E. R. McDonagh ..	26
Countess of Winchilsea	32	R. Humphrys	24
Dr. R. H. Clarke ..	32	Frank Finn	22
C. Castle-Sloane ..	30	Mrs. K. L. Miller ..	15
H. Goodchild	30	C. W. Perryman ..	11

The above are elected.

* J. H. Harrison .. 9

[Dr. Chamberlain and Mr. Swan withdrew their names after the voting papers were printed].

Judges:

H. R. Fillmer	39	S. M. Townsend ..	28
W. Swaysland	30	D. Seth-Smith ..	26
H. T. T. Camps ..	29	R. Humphrys ..	23

The above are elected.

*Frank Finn	18	*W. Osbaldeston ..	17

* *Not elected.*

"BIRD NOTES" PRIZE COMPETITION.

Dr. E. Hopkinson ..	16	Prof. W. E. D. Scott	1
Dr. W. G. Creswell ..	14	H. R. Fillmer	1

LEONARD W. HORTON,

Feb. 6th, 1905. *Scrutineer.*

NOTE BY THE ARTIST.

The members of the Foreign Bird Club may be interested to know that all copies of the coloured plates issued to members have been carefully revised by the Artist himself, and that this care and attention is probably unique. No single copy of any plate in any other publication having been revised by him, though many could be improved by such a process.

Also the fact of the plates being issued as "Artist's Proofs," and signed by the Artist, is believed to be unprecedented.

In many magazines or journals devoted to birds the plates are either of necessity drawn from skins, or else, even when they are drawn from life, the colouring is often of an inferior order.

It is the Artist's hope and intention to produce the Plates for the coming volume with even greater care than he has bestowed on those in the present volume of *Bird Notes*, and he intends also to produce them as "Artist's Proofs," and to sign copies of those Plates when the birds are drawn from living specimens. The signed copies will only be issued to members, and to the journals and magazines which review *Bird Notes*.

◆

THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Editorial Secretary by the 10th of the month.

Lady DUNLEATH has Silver Pheasants (1904) for sale, reared outside, quite tame, 10/6 each. Apply
Housekeeper, Ballywalter Park, County Down.

Pair Chinese Quails, or exchange for very good pair Diamond Sparrows. PICKLES, Stoneyhurst, Morecambe.

"Avicultural Magazine,"—July, August, September, October, November, December, 1900; January, February, 1901—8/- the lot, or exchange for 2 hen Budgerigars.
BROOKSBANK, Tickhill, Rotherham.

Several Goldfinches 3/- each, 2 years old 5/- each. Wanted—two or three pairs of Gouldians, also Parrot Finches. Must be healthy and reasonable in price.
H. R. FILLMER.

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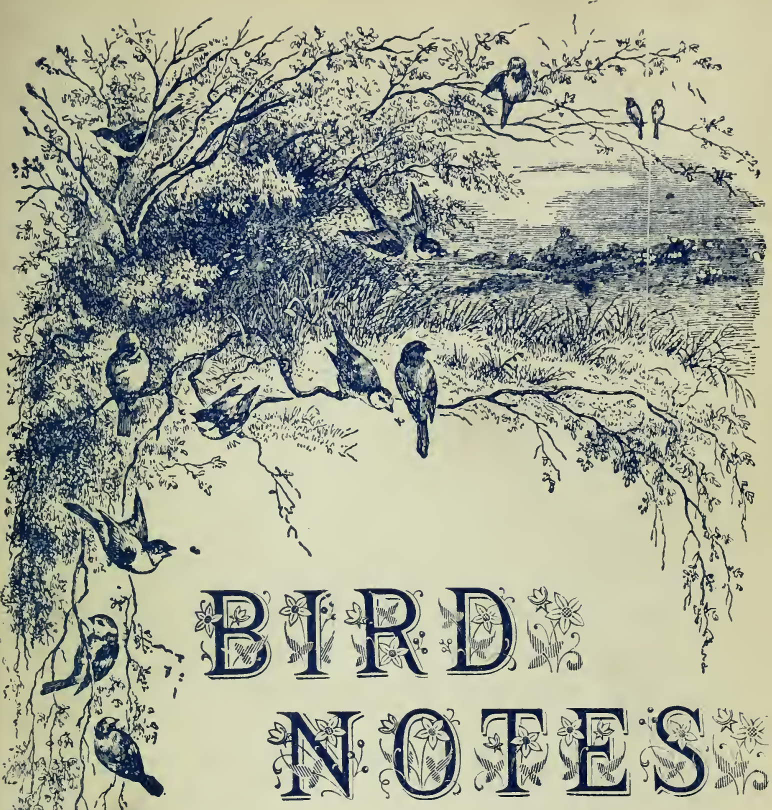

BIRD NOTES

Vol. 3. No. 1. MARCH, 1904. Price 1/-.

Principal Contents.

The Rheas at Ballywalter Park .. LADY DUNLEATH.
The Story of Bird-Death (continued) W. G. CRESWELL, M.D., F.Z.S.
The White-capped Tanager (concluded) J. A. SWAN.
An Aviary in Madeira .. .. E. HOPKINSON, M.B., D.S.O.
An Unique Cage .. .. J. A. SWAN.
The Food of Birds in Captivity .. H. R. FILLMER
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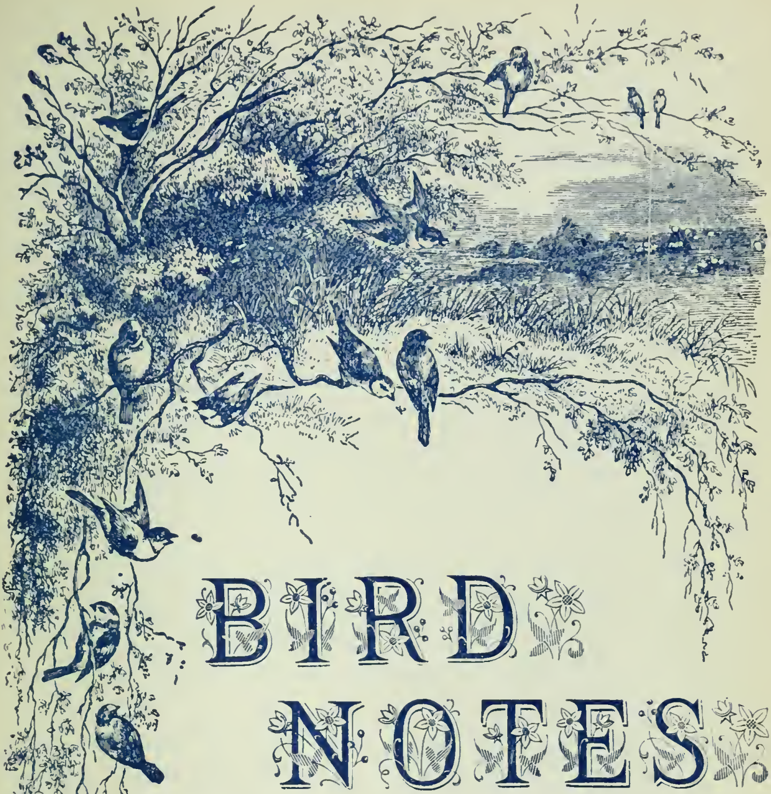

BIRD NOTES

Vol. 3. No. 2. APRIL. 1904. Price 1/-.

Principal Contents.

Notes on Housing and Hygiene .. W. G. Creswell, M.D., F.Z.S.
The Parrots of the Gambia .. E. Hopkinson, M.B., D.S.O.
How to Prepare Bird Skins .. ..J. E. R. McDonagh.
The Common Firefinch .. ..E. Hopkinson, M.B., D.S.O.
The Story of Bird-Death (continued) W. G. Creswell, M.D., F.Z.S.
One of the Uses of a Bird's Beak .. S. H. Snell, M.D.
Short Notes, and Letters to the Editor

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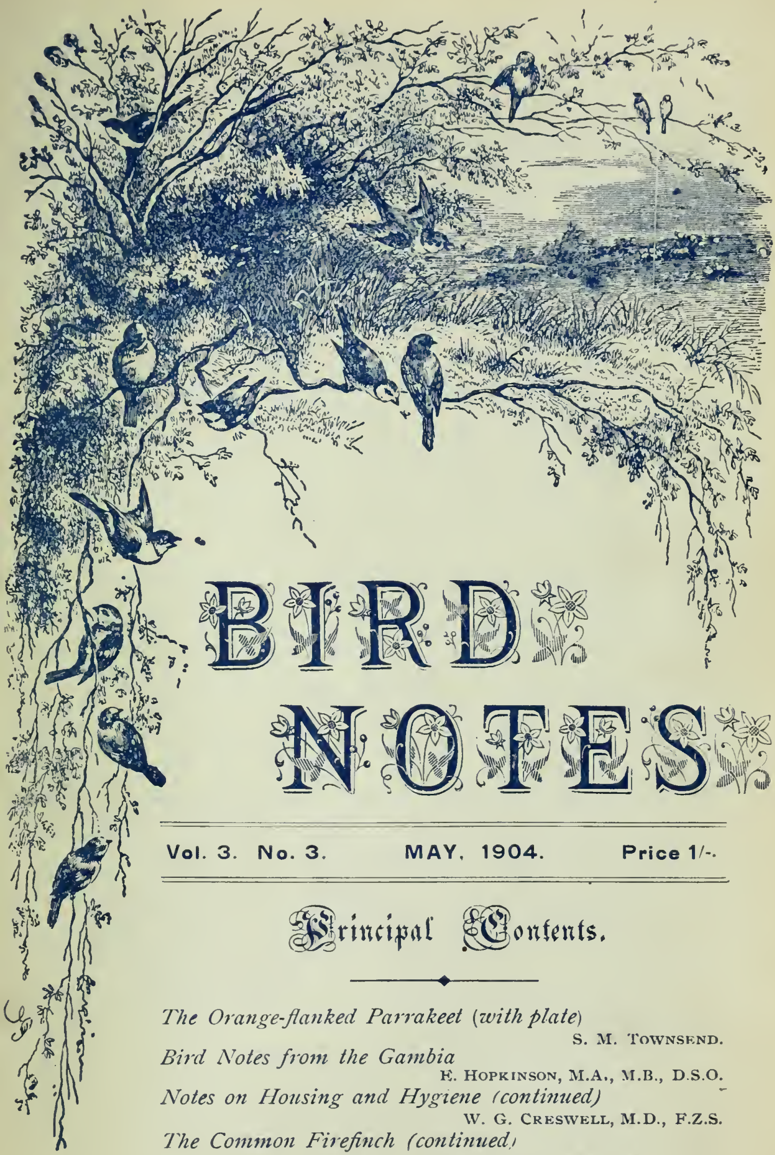

BIRD NOTES

Vol. 3. No. 3. MAY, 1904. Price 1/-.

Principal Contents.

The Orange-flanked Parrakeet (with plate)
S. M. Townsend.
Bird Notes from the Gambia
E. Hopkinson, M.A., M.B., D.S.O.
Notes on Housing and Hygiene (continued)
W. G. Creswell, M.D., F.Z.S.
The Common Firefinch (continued)
E. Hopkinson, M.A., M.B., D.S.O.
The Story of Bird-Death (continued)
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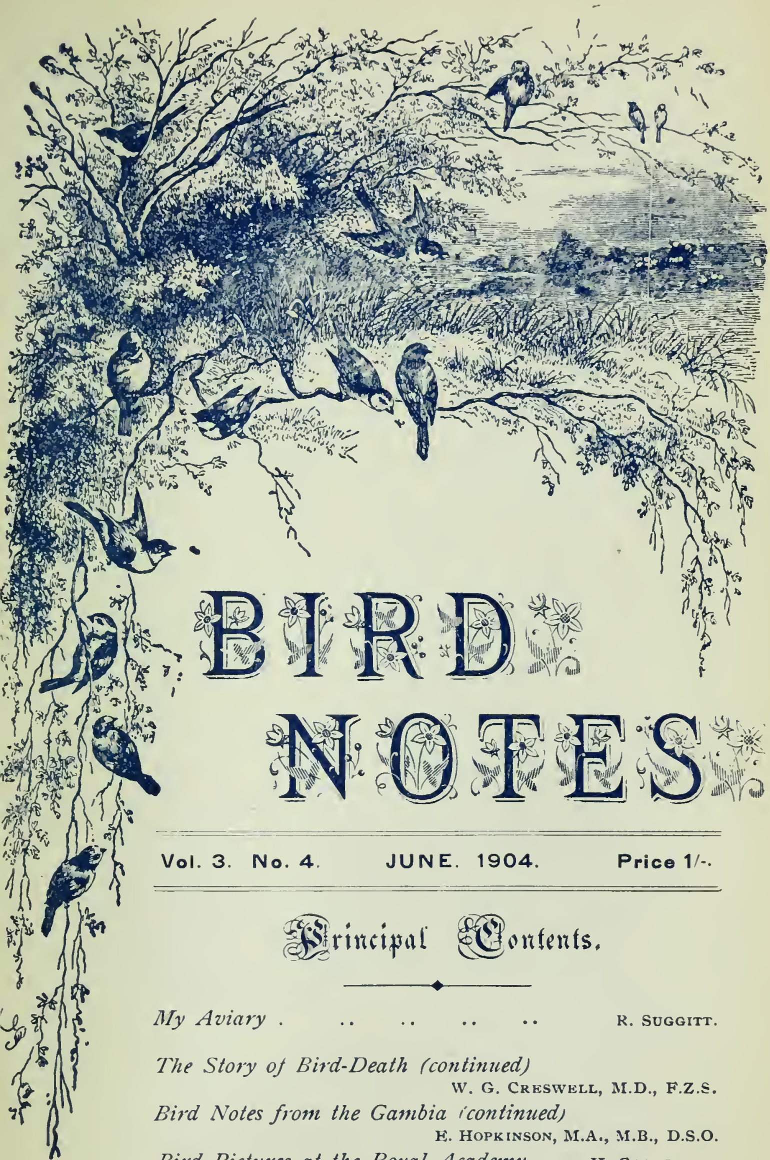

BIRD NOTES

Vol. 3. No. 4. JUNE. 1904. Price 1/-.

Principal Contents.

My Aviary . .. . R. SUGGITT.

The Story of Bird-Death (continued)
W. G. CRESWELL, M.D., F.Z.S.

Bird Notes from the Gambia (continued)
E. HOPKINSON, M.A., M.B., D.S.O.

Bird Pictures at the Royal Academy H. GOODCHILD.

Short Notes, and Letters to the Editor.

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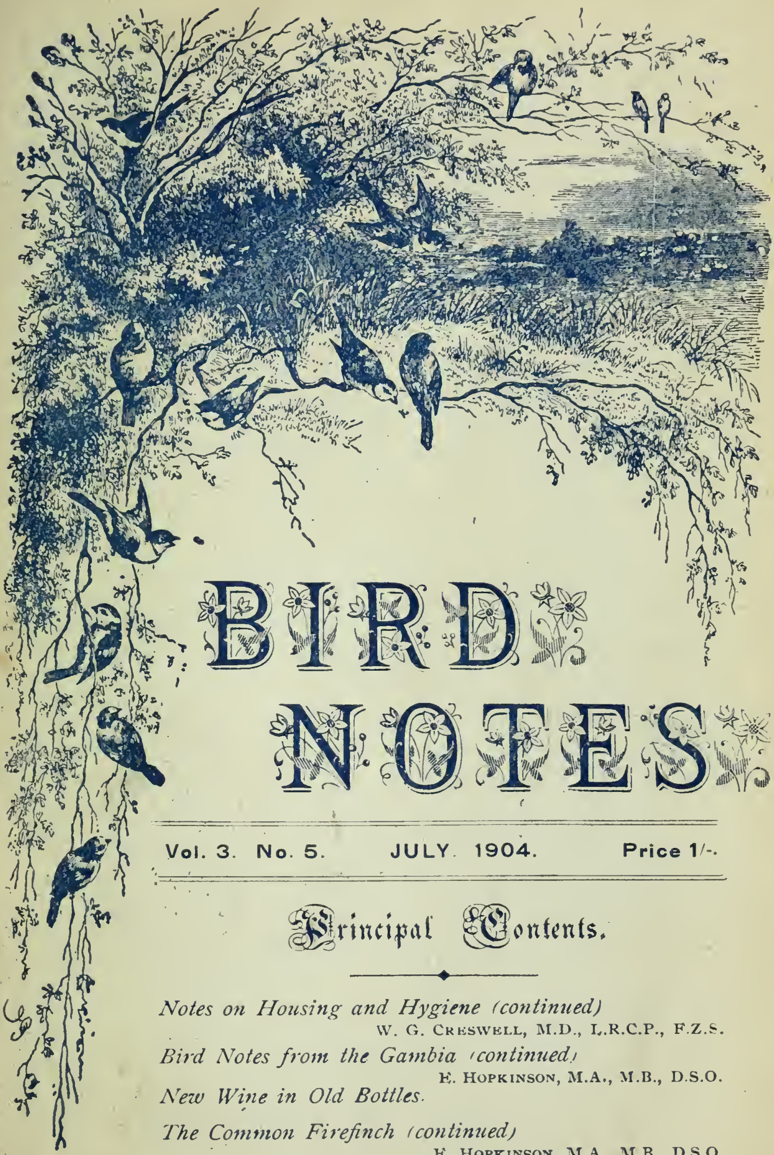

BIRD NOTES

Vol. 3. No. 5.   JULY 1904.   Price 1/-.

Principal Contents.

Notes on Housing and Hygiene (continued)
W. G. Creswell, M.D., L.R.C.P., F.Z.S.

Bird Notes from the Gambia (continued)
E. Hopkinson, M.A., M.B., D.S.O.

New Wine in Old Bottles.

The Common Firefinch (continued)
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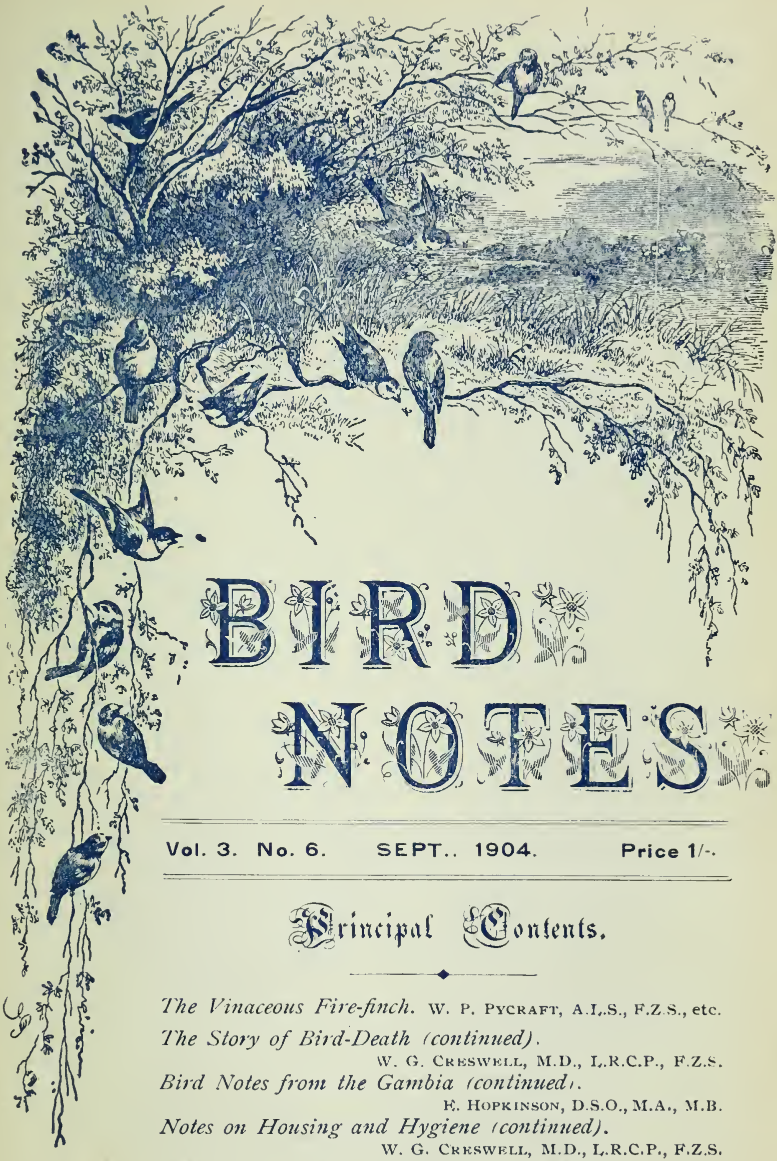

BIRD NOTES

Vol. 3. No. 6. SEPT.. 1904. Price 1/-.

Principal Contents.

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The Vinaceous Fire-finch. W. P. Pycraft, A.L.S., F.Z.S., etc.
The Story of Bird-Death (continued).
W. G. Creswell, M.D., L.R.C.P., F.Z.S.
Bird Notes from the Gambia (continued).
E. Hopkinson, D.S.O., M.A., M.B.
Notes on Housing and Hygiene (continued).
W. G. Creswell, M.D., L.R.C.P., F.Z.S.
The Food of Birds in Captivity (continued).
H. R. Fillmer.
Short Notes and Letters to the Editor.

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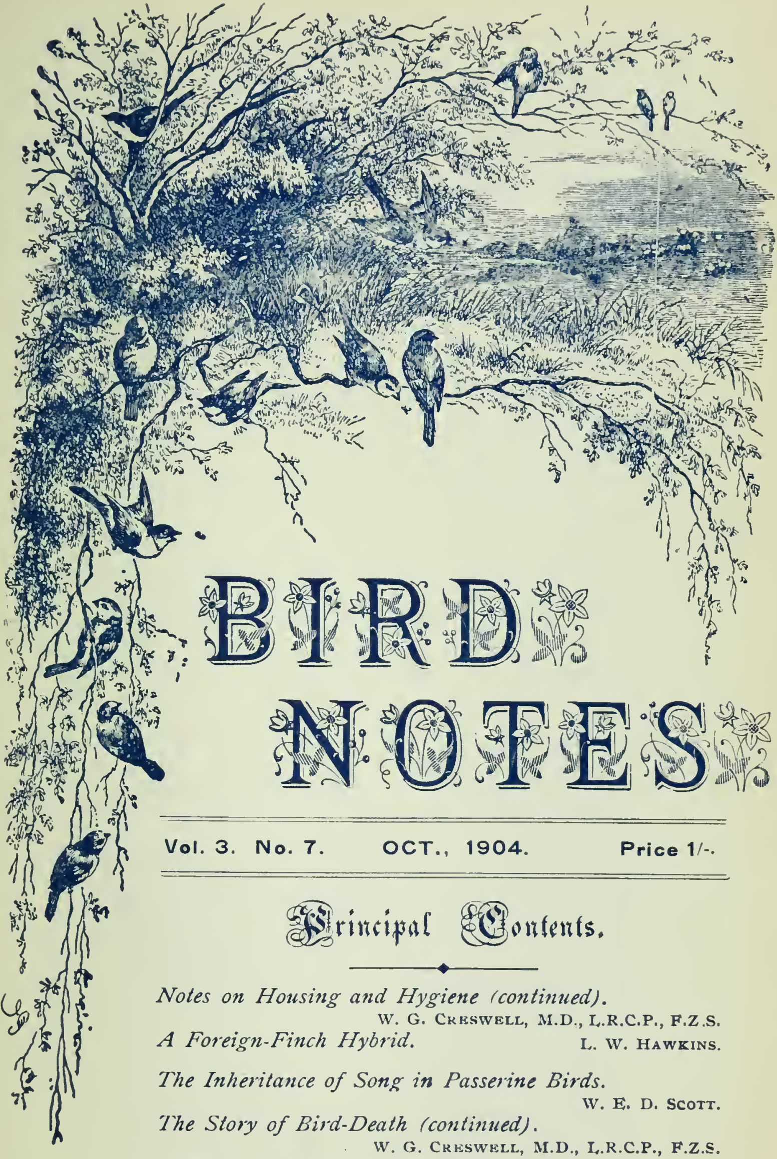

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Vol. 3. No. 7. OCT., 1904. Price 1/-.

Principal Contents.

Notes on Housing and Hygiene (continued). W. G. Creswell, M.D., L.R.C.P., F.Z.S.
A Foreign-Finch Hybrid. L. W. Hawkins.
The Inheritance of Song in Passerine Birds. W. E. D. Scott.
The Story of Bird-Death (continued). W. G. Creswell, M.D., L.R.C.P., F.Z.S.
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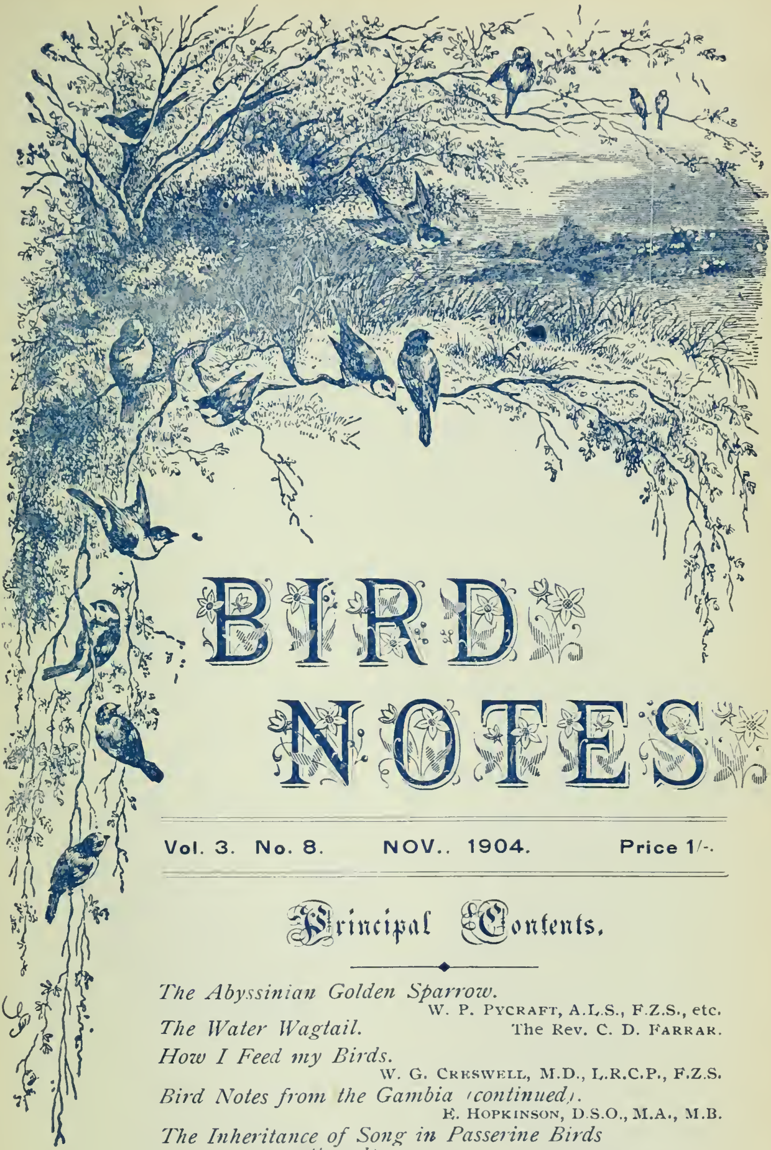

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The Abyssinian Golden Sparrow. W. P. Pycraft, A.L.S., F.Z.S., etc.
The Water Wagtail. The Rev. C. D. Farrar.
How I Feed my Birds. W. G. Creswell, M.D., L.R.C.P., F.Z.S.
Bird Notes from the Gambia (continued). E. Hopkinson, D.S.O., M.A., M.B.
The Inheritance of Song in Passerine Birds (continued). William E. D. Scott.
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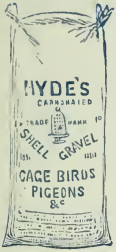
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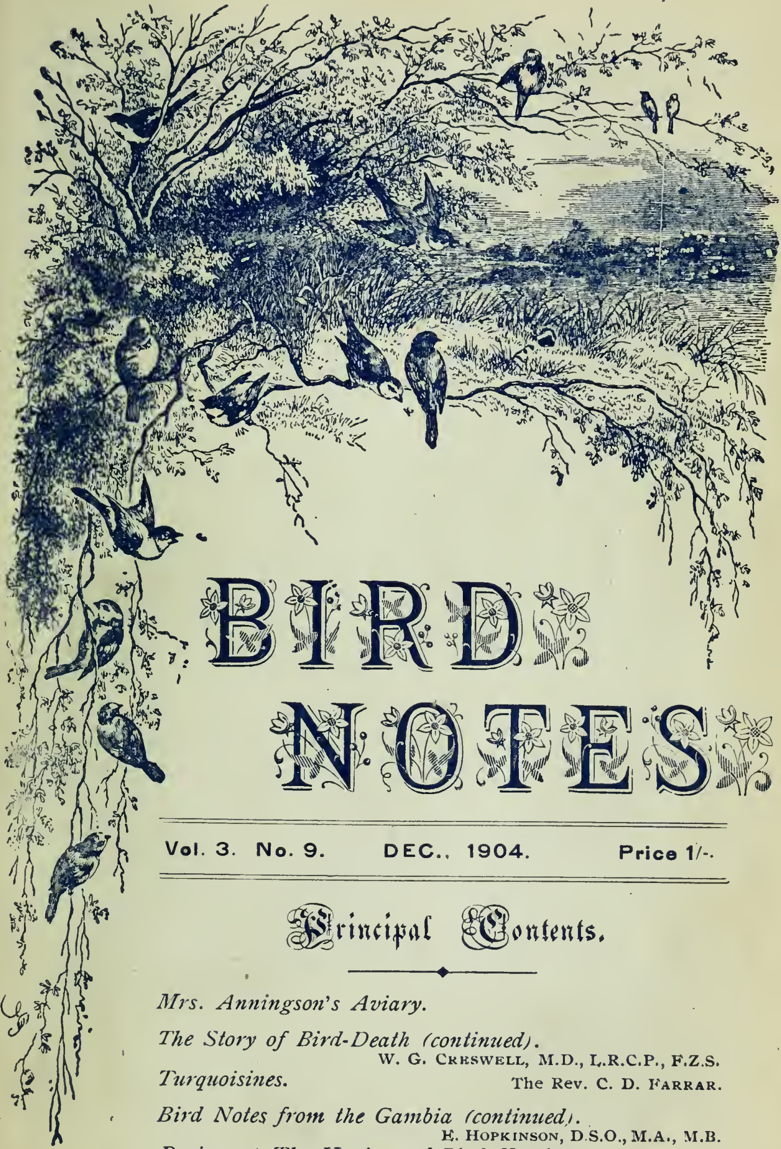

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Turquoisines. The Rev. C. D. FARRAR.

Bird Notes from the Gambia (continued).
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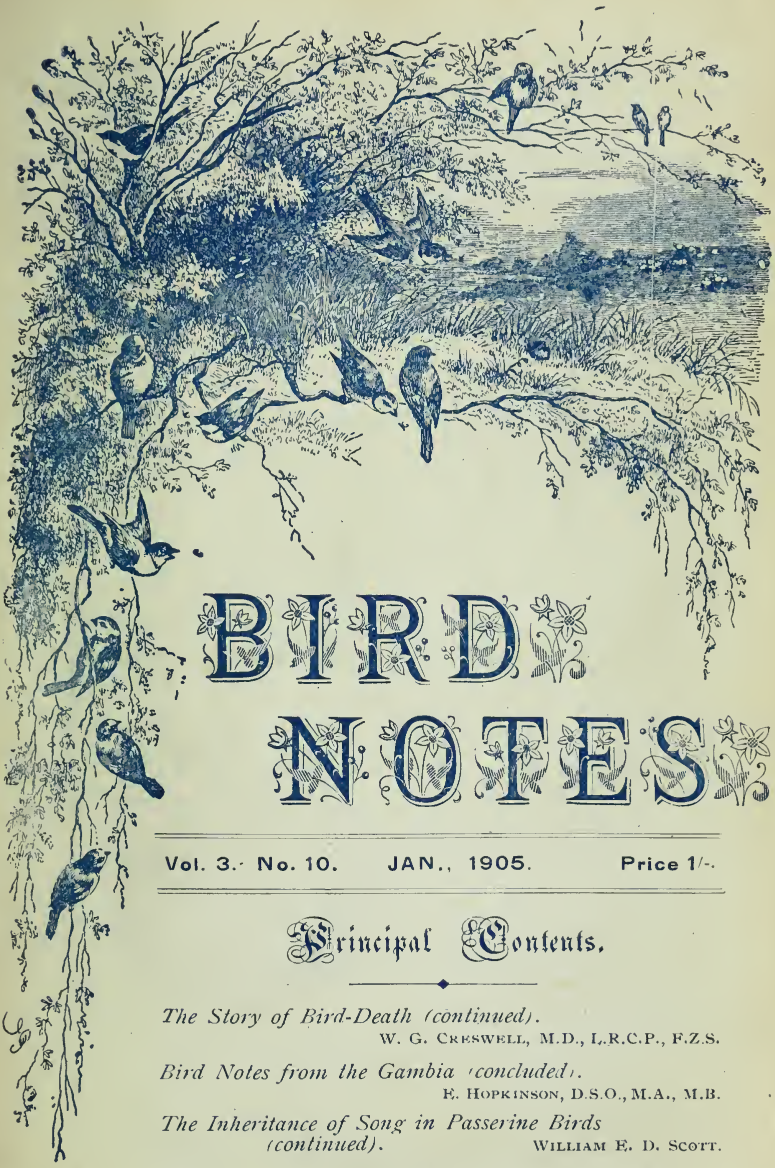

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Bird Notes from the Gambia (concluded).
E. HOPKINSON, D.S.O., M.A., M.B.

The Inheritance of Song in Passerine Birds (continued).
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Review: "Field Book of Wild Birds and their Music." (Second Notice).
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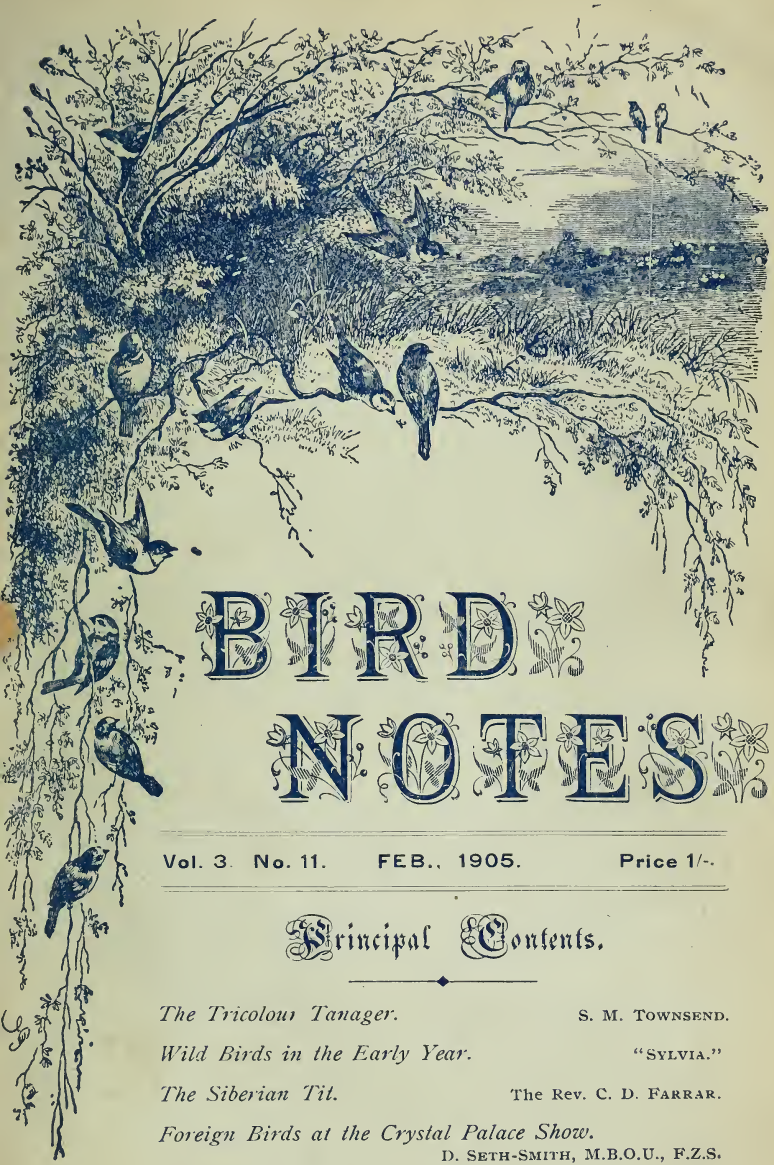

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Wild Birds in the Early Year. "Sylvia."

The Siberian Tit. The Rev. C. D. Farrar.

Foreign Birds at the Crystal Palace Show. D. Seth-Smith, M.B.O.U., F.Z.S.

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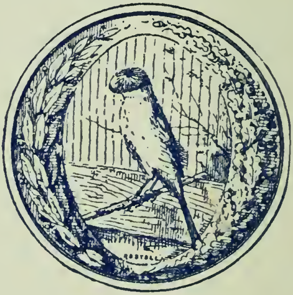

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